The Croonian Lectures

ON

SOME POINTS CONNECTED WITH SLEEP, SLEEPLESSNESS, AND HYPNOTICS.

Delivered before the Royal College of Physicians of London on June 20th, 22nd, 27th, and 29th, 1899,

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LECTURE II.[1]

Delivered on June 22nd, 1899.

GENTLEMEN,—Before dealing with any experimental investigations on the action of hypnotics it is necessary to establish the value of these in therapeutics. In nearly all recent discussions on sleeplessness and its treatment the position of sleep-producing drugs has been assailed, and at the present time, in theory if not in practice, the use of these drugs has sunk to a minimum. This, I think, is to be regretted. Although I do not for one moment countenance a routine treatment of insomnia by drugs I think that these are of considerable value in conditions which I shall mention later. I must add, however, that no class of drugs needs such judicious employment and that resort to them should be had only when other means of treatment are insufficient or contra-indicated.

Having stated my belief in the therapeutic value of hypnotics it next becomes necessary to determine which is the safest and most effective of these. An ideal hypnotic is one which will produce sleep of sufficient duration under all conditions without ill effects or after effects. It is hardly necessary to state that we know of no such remedy at present and it is doubtful if we ever shall. The pharmacological field in this direction at least is limited. The administration of hypnotic drugs produces a condition which is closely allied to, if not identical with, a pathological state. Few if any of these drugs possess a purely selective influence on the cerebral cells, for the cells of other tissues are also affected; but even if they did possess such an influence depression of other organs, circulatory and respiratory, would result from an action on their centres, and the presence of disease might determine a fatal effect of an otherwise non-lethal dose. Moreover, the variability of the individual and the presence of pain and other conditions altogether preclude us from expecting to attain a mathematical adjustment of the induced cerebral depression so as never to overpass the limits of safety. But if we cannot find an absolutely harmless hypnotic at least we can find a comparatively safe one, and it is our duty to determine which is the most reliable and the least toxic for therapeutic purposes. It is intended that these lectures should be a contribution in this direction. Much difference of opinion exists as to the best hypnotic and it was thought that a reinvestigation of the matter from an unbiased and strictly comparative point of view might be of service. The classification I intend to follow is mainly a chemical one. In the present lecture I shall deal with synthetic remedies and it will be best to start with the simplest of them—viz., the alcohols.

Although as a hypnotic ethyl alcohol is not largely prescribed by the profession, yet with its homologues it has played an important part in the discovery of newer remedies of this class. The simple constitution of these compounds, the constant presence of what we may regard as a comparatively inactive hydroxyl group, allow us to attribute to the alkyl radicle the effect, and difference in effect, produced by these bodies. Perhaps no other series of organic substances has received so much attention from pharmacologists as this. It has been investigated from every point of view; its general toxic effect and the action on isolated organs and on fermentation processes, &c., have all been determined. As regards the effect on isolated organs, particularly on muscular tissue, an attempt at a numerical relation even has been made. Thus Ringer and Sainsbury from results obtained on the isolated frog's heart state that an increase or diminution of CH_2 in the molecule "is capable of halving or doubling, as the case may be, the activity of the molecule; each CH_2 group may be said in a way to have its physiological equivalent." Other observers, working with other tissues, have not obtained such definite results, although Hemmeter, using the isolated mammalian heart, found that with the exception of ethyl alcohol the toxicity of the series could be expressed by a geometric progression—propyl alcohol being four times more toxic than methyl, butyl twice more toxic than propyl, and amyl twice more toxic than butyl. A similar result was obtained by Dr. J. J. Taylor who worked on simple muscle tissue in my laboratory some years ago. Ethyl alcohol he found slightly less toxic than methyl, whereas the remainder of the series increased in toxicity with increase of molecular weight. The relative influence was, on the whole, greater than Hemmeter's results show, and the variability in effect precluded any deductions of an arithmetical nature. An interesting feature in these tracings is the rapid fall in the height of contraction immediately after the alcoholic saline is applied and the long continuance of contractions of a slight character, notwithstanding the repeated application of the alcoholic solution. It would seem as if a certain amount of tolerance was established unless the phenomenon is due to incapability of the drug to diffuse to the centre of the muscle.

Upon the blood-vessels and blood-pressure the alcohols exert the same general effect as upon striped muscular tissue. The action of ethyl alcohol upon the circulation has been keenly debated, but as a discussion on this point would lead us away from the end we have in view I purposely avoid it. I shall confine myself to my own experiments on the comparative influence of the alcohols.[2]

When perfused through the vessels of a water tortoise each alcohol causes a transient dilatation followed by contraction; the higher the alcohol in the series the greater is the effect. Methyl and ethyl alcohols are not very active. The following experiment was made in a water tortoise with some of the higher alcohols, the saline running through vessels one and a quarter hours before commencing the experiment. The pressure on the vessels was 18 centimetres of water and the temperature was 16° C. (The numbers represent cubic centimetres running through in each successive five minutes.) Normal saline, 10·0, 9·5, 9·0; 1 in 200 propyl alcohol, 11·0, 18·5, 14·0. Normal saline, 15·0, 10·0, 9·5, 9·0, 8·5, 9·0; 1 in 200 butyl alcohol, 15·0, 20·5, 19·5. Normal saline, 13·5, 8·5, 7·5, 7·0; 1 in 200 propyl alcohol, 7·5, 11·5, 10·5, 9·5. Normal saline, 9·5, 7·5, 6·0, 5·5; 1 in 200 butyl alcohol, 6·0, 12·0, 11·0, 10·5. Normal saline, 7·5, 4·5, 2·5, 2·5; 1 in 200 amyl alcohol, 3 5, 10·5, 13·0, 13 0. Normal saline, 12·0, 8·5, 4·5, 3·0, 3·0.

On blood-pressure, when injected intravenously, methyl and ethyl alcohols exert very little effect. Two cubic centimetres of a 20 per cent. solution are without any influence; larger doses cause a fall varying with the amount given—a distinct rise I have not observed. Propyl produces a slight fall, butyl a more marked one, and amyl alcohol a still greater fall. (Fig. 4.) It has even been suggested that the effect on blood-pressure should be used for determining the presence of higher alcohols in ordinary ethyl alcohol, but considering the similarity in action of these alcohols and the comparatively slight difference in quantitative effect I think the method will be of doubtful utility.

The hypnotic action and toxicity follow the same order as the effect upon simple tissues. As regards toxicity Dujardin-Beaumetz and Audigé[3] obtained the following numbers representing the toxic equivalents measured in grammes per kilogramme body-weight when the alcohols were administered hypodermically to dogs: methyl alcohol, 7·0; ethyl alcohol, 7·75; propyl alcohol, 3·75; butyl alcohol, 1·85; and amyl alcohol, 1·5 to 1·6. Their mode of experimenting has, however, been adversely criticised. The most exact results are those obtained by Joffroy and Serveaux. These observers recognise two kinds of toxicity—a true toxicity and an experimental one. True toxicity they define as the smallest quantity of substance per kilogramme body-weight

[1] Lecture I. was published in THE LANCET of June 24th, 1899.

[2] I speak of these as my own experiments, but I ought to mention that they were performed for me by my late assistant, Mr. C. R. Marshall, now Professor of Materia Medica in the University of St. Andrews, who has rendered me much valuable help in the preparation of these lectures.

[3] Recherches Expérimentales sur la Puissance Toxique des Alcools, 1879; Bulletin Général de Thérapeutique, Sept. 30th, 1884, p. 251.

which will bring about death after a short delay. By experimental toxicity they mean the amount of alcohol required to cause death when the injection is continued up to the time of death as indicated by stoppage of the respiration. The numbers in this case were found to be—methyl alcohol, 25·25; ethyl alcohol, 11·70; propyl alcohol, 3·40; iso-butyl alcohol, 1·45; and amyl alcohol, 0·53. With the exception of the relative innocuousness of methyl alcohol this agrees on the whole with the experiments of previous observers. The toxicity in the case of the higher alcohols is rather greater, but this may be explained by the different method of experimenting. The *true* toxicity differs in many respects from the *experimental* and this is especially the case with methyl alcohol, the toxic equivalent in this case being 9·0 and that of ethyl alcohol being 7·8. According to Joffroy and Serveaux methyl alcohol is not excreted so readily as ethyl alcohol and the great difference in the two kinds of toxicity is thus explained. Quite recently Picard[4] has reinvestigated the question from a different point of view. He used fish, amphibians, and birds. The last he exposed to a definite amount of the vapour of the alcohols; the first two he treated with triturated solutions of these bodies. The relative numbers he gives are: methyl, ⅓; ethyl, 1; propyl, 2; butyl, 3; and amyl alcohol, 10. My own numbers as regards the effect on fish—which are, perhaps, the most satisfactory animals to use in order to obtain an accurate relative toxicity—are similar, as may be seen from the following table:—

Alcohol.	Strength.	Death in
Methyl	2·0 per cent.	< 5 – > 20 hours.
Ethyl	2·0 ,,	11½ ,,
Propyl	0·2 ,,	24 ,,
Isopropyl	0·2 ,,	24 ,,
Normal butyl	0·1 ,,	20 ,,
Tertiary butyl	0·1 ,,	22 ,,
Amyl	0·05 ,,	22 ,,

The difference in the numbers given by different observers, especially in regard to the higher alcohols, is probably due to an unequal absorption of these owing to their greater insolubility. But notwithstanding these discrepancies in the actual toxic dose the general fact remains that within limits prescribed by solubility increase of the molecular weight is accompanied by increase of toxicity. As the hydroxyl group remains constant this increase must be ascribed to the alkyl radicle; and this is further supported by the fact that other compounds (esters, &c.) of these alkyls show the same effect provided that the acid or other radicle has no characteristic action of its own. But the question of importance to us is, Do we increase the hypnotic power in greater degree than the toxicity by increasing the molecular weight of the alcohol? For it is obvious that in this way alone we can gain any practical advantage which is applicable to therapeutic purposes. With the exception of the greater influence of ethyl over methyl it cannot be said that we do. Certainly not with ordinary amyl alcohol and apparently not with normal propyl and butyl. When we come to the isomers of the primary alcohols the case, however, is different. According to Gibbs and Reichert[5] the toxicity of these when administered hypodermically is as follows: propyl alcohol, 1·6 to 2·5; iso-propyl, 1·3 to 2·0; butyl, 0·3 to 0·6; iso-butyl, 1·3 to 2·0; secondary butyl, 1·0 to 1·5; and tertiary butyl, 1·0 to 1·2. Thus, although iso-propyl alcohol is more toxic than the normal propyl alcohol, iso-butyl, secondary butyl, and tertiary butyl alcohols are much less toxic than normal butyl alcohol. Schneegans and von Mering[6] found the same effect and also showed that secondary alcohols were more hypnotic than primary and tertiary than secondary. Here, then, we have a fact which may be applied to therapeutic purposes. Furthermore, it was found that the component radicles exercised a modifying effect; that, for example, if ethyl replace a methyl radicle in trimethyl carbinol,

a disproportionate increase in the hypnotic action occurs. This substance, which is tertiary amyl alcohol, is known in practice as amylene hydrate. It was introduced by von Mering in 1887 as peculiarly adapted to mental cases, but although it has received a fair trial both in these and other affections it does not appear to have upheld its reputation. According to von Mering it quickly produces sleep both in animals and men without ill effects. It has scarcely any effect on blood-pressure and respiration, except after large doses have been administered, when respiration ceases and the heart stops. But even from an experimental point of view this favourable impression has not been upheld. Vivante[7] found that after small doses both respiration and blood-pressure were depressed; and Jeskow[8] obtained an effect on the heart which he attributed to paralysis of the inhibitory apparatus and simultaneous stimulation of the accelerator mechanism. The most extensive researches on this substance have been carried out by Harnach and Meyer.[9] These observers, like Mering, observed calm sleep in rabbits, but in cats and dogs this was preceded by a state of marked excitement. The blood-pressure was depressed and gradually sank until death occurred. The respirations were increased at first both in number and depth, but later they became weaker, and if a large dose had been given gradually ceased. In men the sphygmograph showed an increase in pulse-tension, the upstroke of the tracing being more slanting and of diminished height, the apex more rounded, and the descent more gradual. The peculiar effects observed were a very marked lowering of temperature (from 4° to 5° C. after moderate doses to rabbits and from 10° to 12° C. after large doses) and an unusual action on striped muscular tissues. The isolated frog's heart showed an enormous temporary increase in contractile power, but this was followed by a sudden fall, irregularity, and death. Given subcutaneously, amylene hydrate produced marked irritation and abscess formation. Other undesirable effects have been described, and it would thus appear, even from purely experimental observations, that amylene hydrate is not a very desirable hypnotic. It is, however, comparatively safe and may be used under certain conditions. Triethyl carbinol, in which the remaining two methyl groups of amylene hydrate have been replaced by ethyl, has been used in 1 per cent. solution in mental cases. The substance only failed to bring about sleep in 4·54 per cent. of cases, but it has a disagreeable taste and produces heaviness of the head and other untoward effects. Of the other alcohols iso-propyl has been recommended as a hypnotic by Friedländer,[10] but it has not, as far as I am aware, been extensively used. In a dose of from one to two cubic centimetres (from 15 to 30 minims) if given in not less than a 12 per cent. solution, it is said to induce sleep in men and to leave no after effects. It produces, however, a burning sensation at the stomach. As it does not appear to possess any advantages over other hypnotics I shall not deal with it further. Tertiary butyl alcohol has been used to produce sleep, but this, too, is of little practical value.

It thus appears that the outcome of investigations on the alcohol series is mainly an indirect one as far as hypnotics are concerned. Within certain limits we have found the value of the alkyl radicles—that ethyl, while differing little in toxicity from methyl, is more powerfully hypnotic and that tertiary alcohols have greater hypnotic properties compared with their toxicity than normal alcohols, iso-alcohols, or secondary alcohols. The importance of this will be seen in the sequel. At this point I might mention the recent work of Albanese on the hydroxy-ethyl methanes. These were investigated to determine the action of the ethyl group in fatty bodies. Four possible compounds exist, but Albanese was only able to obtain dihydroxy-ethyl and trihydroxy-ethyl methanes. The latter was found to be about twice as energetic a hypnotic as the former, but it is also more toxic and less soluble.

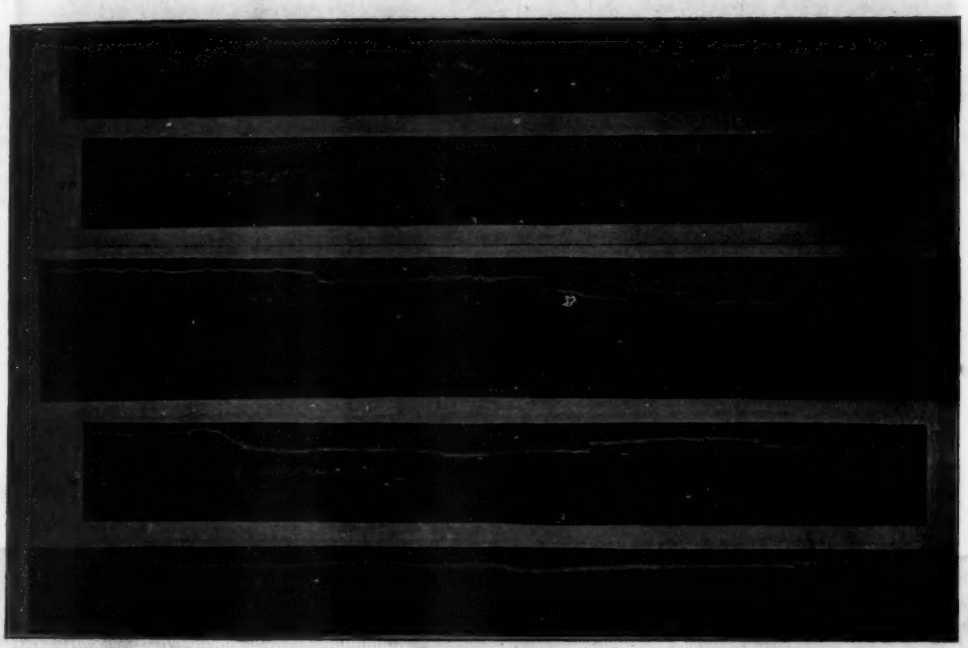
As ethyl possesses marked hypnotic properties we should expect the union of two ethyls by some indifferent radicle or atom to be more markedly hypnotic. This we find to be the case. Ordinary ether, which is composed of two ethyl radicles united by oxygen, $\begin{matrix}C_2H_5\\C_2H_5\end{matrix}\!>\!O$, is more powerfully depressant to nerve-cells than ethyl alcohol, but it is also more transient in its effect. We have, therefore, evidently to deal with something more than mere

[4] Comptes Rendus, 1897, tome cxxiv., p. 829.
[5] American Chemist, vol. xiii., p. 361.
[6] Zeitschrift für Physiologische Chemie, Band ix.
[7] La Terapia Moderna, iv., 209.
[8] Dissertation, St. Petersburg, 1889.
[9] Zeitschrift für Klinische Medicin, 1894, Band xxiv., p. 374.
[10] Dissertation Berlin, 1888.

chemical constitution and we may perhaps find an explanation in altered physical condition. The physical properties of ether and alcohol differ markedly; ether boils about the temperature of the body, and it is really to its volatility and greater diffusibility that we must attribute its transient action. Were it not for this its inferior solubility in water as compared with alcohol would militate against its more rapid action. This leads me to the question of solubility, which is one of extreme importance and one too frequently overlooked in dealing with the action of drugs. It is obvious, speaking generally, that the more soluble in water a body is, the more rapid, transient, and intense will be its effects on the system. A drug slightly soluble in aqueous media will be absorbed but slowly and its action will be delayed, but its effects will be more prolonged. If the substance is quite insoluble only a mechanical effect is obtained. But it is often found that with a diminution in the solubility an increase in toxic action occurs. Thus, in the alcohol series we have considered, amyl is comparatively insoluble, butyl is much more soluble, propyl is still more soluble, while ethyl and methyl alcohols are miscible in all proportions with water. And Richet[11] especially lays stress upon this factor of solubility. He says the more soluble a body is the less toxic it is, and he suggests that this may be due to the inability of the less soluble compound to diffuse evenly through the protoplasm. This question of increased toxicity and diminished solubility refers, of course, more particularly to the substances when compared in solutions of approximately equal strength. If the insolubility of a body is so great as to interfere markedly with its absorption it is obvious that its effect upon the tissue cells of the body must be small. But admitting this we begin to understand why, notwithstanding their difference in molecular weight, methyl and ethyl alcohols are so near each other in toxicity. Richet's explanation, however, is not altogether satisfactory; the question of chemical composition cannot be wholly ignored. In dealing with the comparative actions of any two drugs of any one series we must consider changes both in chemical structure and in physical properties.

Another view of the importance of solubility is that of

FIG. 4.



Comparison of the effects of different alcohols upon blood-pressure. *(The effect of amyl alcohol is not well shown in the tracing.) Rabbit weighing 2380 grammes. Chloroform-ether. Tracing from carotid artery. Injections into femoral vein. Base-line raised: indicated by numbers (= mm.) at side. Time marks, two seconds.*

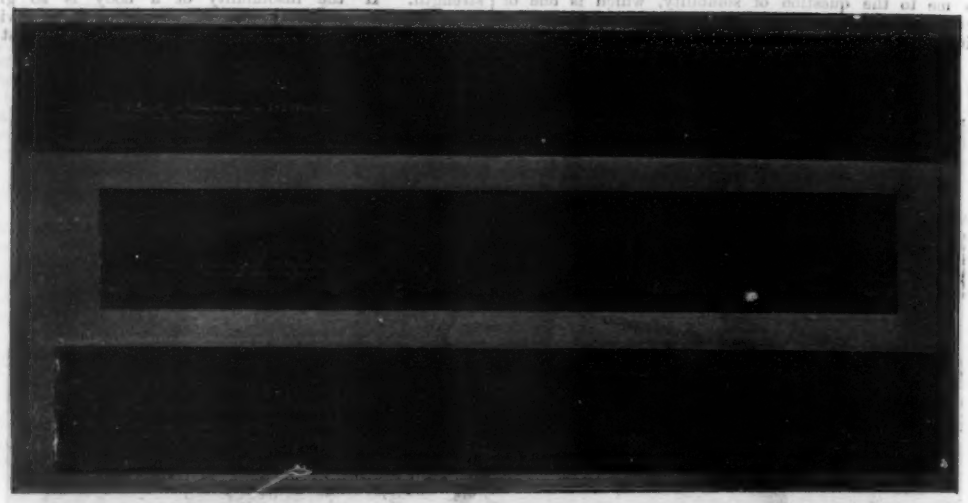
FIG. 5.

Comparison of effect of methylal and acetal on blood-pressure. *Rabbit weighing 1430 grammes. Chloroform. Tracing from carotid artery. Injections into femoral vein. Base-line raised 20 mm. and 10 mm. respectively. Time marks, seconds.*

[11] Dictionnaire de Physiologie, article "Alcools," p. 247.

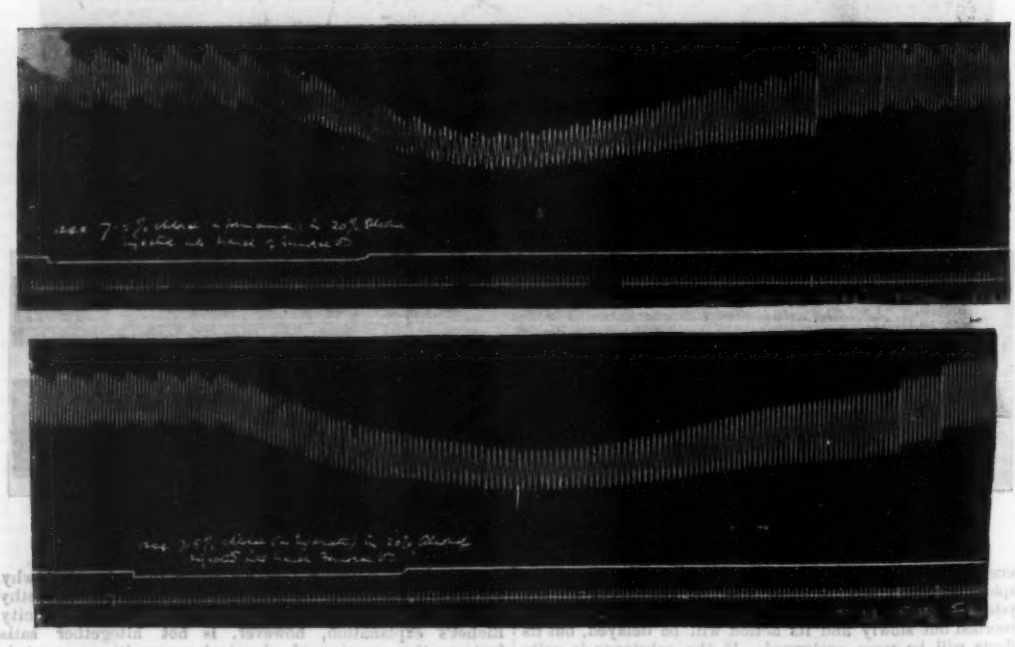
Meyer and Baum.[12] They point out that von Bibra, Harless, Hermann, Pohl, and others have proved that in animals killed by chloroform and alcohol, &c., there is a disappearance of fat from the tissues containing fat-like bodies such as lethicin in the stroma of the red corpuscles, but especially they can penetrate to the cells of the brain; and (2) that the relative strength of the narcotic effect of a number of such fat-dissolving bodies is dependent on the one hand on their mechanical affinity with the fatty substances and on the other with the other cell constituents, especially water, consequently the narcotic effect depends on the *coefficient de partage* of the substance when shaken up in equal volumes of oil and water.[13]

FIG. 6.



Comparison of the effects of chloralamide, chloral hydrate, and chloral alcoholate upon blood-pressure. *Dog weighing 9040 grammes. Morphine-chloroform. Tracing from carotid artery. Injections into femoral vein. Base-line raised 40 mm. Time marks, seconds. Same amount of chloral injected in each case.*

FIG. 7.



Comparison of chloralamide and chloral hydrate on blood-pressure. *Dog weighing 9040 grammes. (Same animal as Fig. 6.)*

in the nerve cells of the brain. Meyer and Baum then go on to prove (1) that all bodies nearly chemically indifferent, if they are soluble in fat, have an anæsthetic action, provided

[12] Archiv für Experimentelle Pathologie und Pharmakologie, May, 1899.

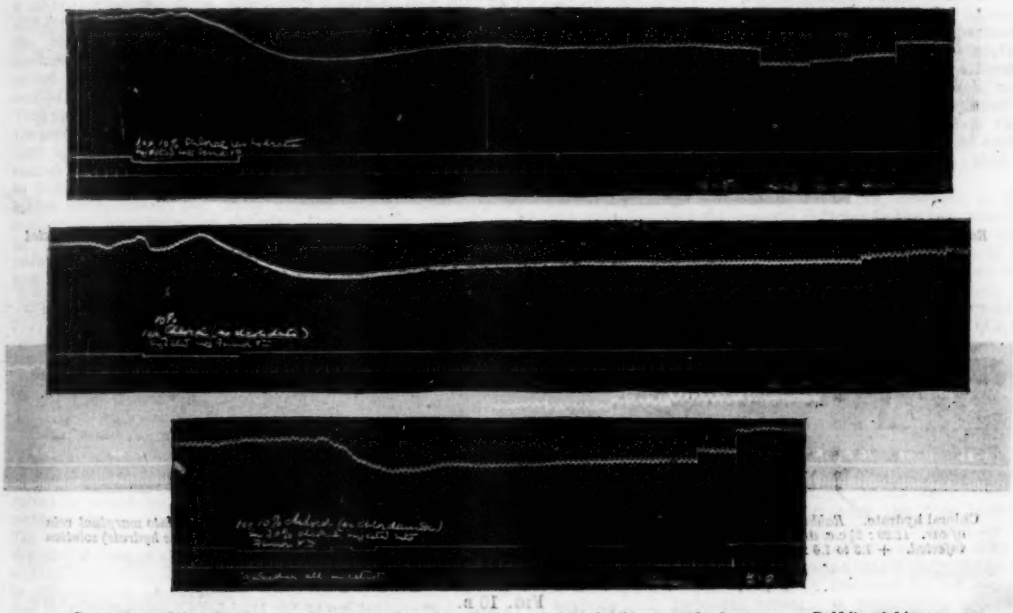
[13] Meyer and Baum's view seems to me to be a luminous one—a body but little soluble in water may concentrate in certain cells and tissues to

Ether is not adapted for a hypnotic, but the allied compounds, methylal and acetal, have been used for this purpose. Methylal or methylene-dimethyl-ether ($CH_2 < \begin{matrix} O.CH_3 \\ O.CH_3 \end{matrix}$) is almost as ill adapted for a hypnotic as ordinary ether. It is a clear liquid, boiling at 42° C. and soluble in three parts of water. From its properties we should expect its action to be transient and this we find to be the case. It was, in fact, introduced into medicine by Richardson as an anæsthetic. Administered to rabbits 1 gramme per kilogramme has scarcely any effect. Slight depression, a slight fall in the number of respirations and in the temperature, and a slight increase in the pulse-rate were all that were noted. Four grammes per kilogramme produced a similar but more marked effect. There was rapid appearance of cerebral depression, the limbs became incoordinate, and soon the animal could be laid on its side, the pulse increased slightly in frequency from 264 to 300 per minute, the number of respirations fell from 78 to 36 per minute and the temperature was lowered 7·9° C. (from 38·6° to 30·7° C.). The vessels of the ear dilated slightly, the pupils first dilated, then contracted, and afterwards dilated again. In two hours the animal commenced to improve and was soon well. The blood-pressure is said to be depressed, but this did not occur when the substance was injected intravenously (Fig. 5). Although comparatively safe, there seems little to recommend it as a hypnotic from an experimental point of view. It has been used subcutaneously in mental cases, but many times, probably because an insufficient dose was given, it was found inactive, and in other cases rapid tolerance was obtained. Circulatory and respiratory depression is said to have occurred, but in such cases this would probably have resulted from any other hypnotic. Methylal seems to be one of the least depressant of hypnotics to the respiratory and circulatory systems, but, as I have said, its transient effect precludes its use.

Acetal (more correctly diethyl acetal) or ethidene-diethyl ether ($CH_3.CH < \begin{matrix} OC_2H_5 \\ OC_2H_5 \end{matrix}$) is built up in the same manner as methylal, but it contains instead of the methyl and methylene groups, ethyl and ethidene radicles, and it is also much less soluble. We should therefore expect it to be more active as a hypnotic and more toxic, and this we find it to be. Four grammes per kilogramme given to a rabbit produced rapid narcosis. The pulse fell 24 per minute (from 276 to 252) and afterwards rose again above the normal (to 300). There was distinct dyspnœa, the respirations increasing from 72 to 132 and then falling to 96. The temperature fell 7·2° C. (from 39·5° to 32·3° C.). The blood-vessels of the ear were somewhat dilated and the pupils also were slightly dilated. Recovery commenced in about two hours, but was slower than in the case of methylal. On the blood-pressure acetal again exerted a greater lowering effect than methylal (vide Fig. 5). Thus from an experimental point of view there seems little ground to recommend acetal as a hypnotic and in practice it has been found wanting. It is rather irritant, produces a sensation of burning in the mouth, and leaves an after-smell in the breath. Vomiting sometimes occurs, excitement is not infrequent, and heaviness of the head and giddiness are often present on awaking. In some cases the drug is even inactive. So far as I can see there seems no necessity for retaining it as a therapeutic agent.

Closely allied to the alcohols are their oxidation products, the aldehydes, containing the group $C\begin{matrix} =O \\ -H \end{matrix}$ from which is derived the well-known hypnotic paraldehyde. This, as you are aware, is a polymerised product of ordinary aldehyde which itself has a marked cerebral action, being at first excitant and afterwards depressant, and, moreover, powerfully toxic and irritant. Paraldehyde $(C_2H_4O)_3$, consisting of three molecules of aldehyde, differs from its progenitor in being much more stable. It is probably to this chemical stability that its value as a hypnotic is due, although Fröhner[14] has described a reducing effect on the blood. An interesting point in connexion with paraldehyde is the action of metaldehyde $(C_2H_4O)_4$, which, although a polymeride of aldehyde, does not appear to possess hypnotic properties. According to Bókai[15] 1·25 grammes per kilogramme introduced into the stomach of rabbits produces excitement, dyspnœa, tremors, and convulsions, and an increase in the pulse-rate. Paraldehyde itself was introduced into practice by Cervello. Experimentally it produces calm sleep without much depression of the respiratory or circulatory system.

FIG. 8.



Comparison of the effects of chloral hydrate, chloral alcoholate, and chloralamide upon blood-pressure. *Rabbit weighing 2430 grammes. Ether as anæsthetic. Tracing from carotid artery.*

a toxic strength, while a body more soluble in water would not concentrate in this way. Also a certain body may be toxic because it dissolves out something from certain cells.

[14] Berliner Klinische Wochenschrift, 1887, p. 685.

[15] Pester Medicinisch-Chirurgische Presse, June 27th, 1886; see also Coppola, Annales de Chimie, v., 140.

After two grammes, which were found necessary to produce sufficient anæsthesia, had been given intravenously to a rabbit (1400 grammes) the blood-pressure was found near its normal height, but the respiration soon failed and the blood-pressure consequently fell. Artificial respiration was performed and the heart continued to beat a long time, but the pressure did not rise again. When a solution of paraldehyde was injected into the veins of an animal under chloroform a fall of blood-pressure and an increase in the depth of the case. In man it produces gastric disturbance—vomiting and pain—and it has nothing to recommend it as a hypnotic.

Of the ketones C=O, which are chemical allies of the aldehydes, I shall say very little. None of them are of practical value. Acetone (diethyl-ketone), methyl-nonyl-ketone, and methyl-phenyl-ketone all possess hypnotic powers[16] varying with the size of the molecule and the contained groups. Methyl-phenyl-ketone, under the name "hypnone," was introduced as a hypnotic by Dujardin-Beaumetz but it

EFFECT OF CHLORAL HYDRATE AND CHLORALAMIDE, USED AS ANÆSTHETICS, ON BLOOD-PRESSURE.

FIG. 9 A.

Rabbit weighing 1790 grammes. (P. 156. R. 120. T. 38·5.) 2.34 : 1·02 grammes chloral hydrate (= 1 gramme per kg. Chloral) in 20 c.c. H_2O injected into stomach. 2.49 : Well under ; no corneal reflex. (P. 258. R. 48.) Operation commenced.

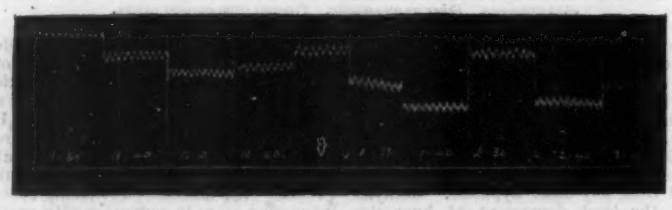
FIG. 9 B.

Rabbit weighing 1730 grammes. (P. 240. R. 120. T. 39·2.) 10.25 : 2·25 g. chloralamide (= 1 gramme per kg. chloral) as emulsion injected into stomach. 11.20 : Operation commenced. (P. 288. R. 60.) Not so deeply under as in previous case.

FIG. 10 A.

Chloral hydrate. *Rabbit weighing 1800 grammes. (P. 276. R. 66.) 11.15 : 5 c.c. $\frac{1}{10}$ chloral (as hydrate) injected into marginal vein of ear. 11.20 : 2½ c.c. ditto. 11.25 : 2½ c.c. ditto. 11.25 : Operation commenced.* × *12.4 to 12.6 : 5 c.c. $\frac{1}{10}$ chloral (as hydrate) solution injected.* + *1.3 to 1.5 : 5 c.c. $\frac{1}{10}$ chloral (as formamide) injected.*

FIG. 10 B.



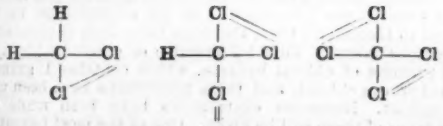
Chloralamide. *Rabbit weighing 1730 grammes. (P. 264. R. 48.) 11.15 : 5 c.c. $\frac{1}{10}$ chloral (as formamide) injected into marginal vein of ear. 11.20 : 2½ c.c. ditto. 11.25 : 2½ c.c. ditto. 11.25 : Operation commenced.* × *1.22 to 1.25 : 5 c.c. chloral as hydrate injected into jugular vein.* + *2.34 to 2.36 : 5 c.c. ditto.*

respirations occurred. After one cubic centimetre of a 10 per cent. solution the effect was very slight; after four cubic centimetres of the same solution it was very marked. A corresponding polymerised product of formaldehyde—paraformaldehyde or tri-oxymethylene—has recently been used as a hypnotic. Considering the greater toxicity of formaldehyde as compared with acetaldehyde we might expect the same of paraformaldehyde as compared with paraldehyde, and this is deservedly fell into disrepute. In many cases it failed to produce sleep at all and even in animals calm and prolonged sleep is not obtained. One gramme per kilogramme injected as an emulsion into the stomach of a rabbit produced paralytic symptoms and sluggish reflexes but little real sleep. The

[16] Paschkis and Obermayer: Pharmakologische Untersuchung über Ketone und Acetoxime, Leipsic, 1892.

frequency of the pulse fell slightly, that of the respiration moderately, and the temperature markedly (7·5° C.), but the animal recovered. The substance is distinctly irritant and produces a sensation of burning in the mucous membranes with which it comes in contact; and vomiting and other ill-effects are not uncommon. Considering its composition it is rather surprising that it should have been used as a hypnotic at all. Diethyl-ketone has been recommended by Albanese and Barabini as a hypnotic and Nosra[17] has used it in maniacal and hysterical cases, but it is not a substance which is likely to come into general use.

Having determined the general influence of the alkyl radicle the next step in the inquiry is to determine what simple changes in the molecule are capable of modifying hypnotic action. It has been found by numerous experiments that the introduction of a halogen element into an aliphatic molecule almost invariably increases its depressant effect on the brain or initiates this if not previously present. Bromine is the most active in this way, but of the three classes of halogen derivatives the chloro-compounds possess the greatest practical importance. Both bromo-compounds and iodo-compounds have a greater toxicity and they possess other undesirable effects which render their use inadvisable. Until recently it was thought that the hypnotic power of organic chloro-derivatives was dependent on the amount of chlorine they contained. It was found that by introducing chlorine into a simple fatty compound a more marked hypnotic effect was obtained, and that by still further increasing the chlorine the depressant effect on the brain was proportionately increased. The chloro-methane series has often been quoted and has, in fact, served as the stock illustration of this subject. Heymans and de Buck,[18] however, have lately controverted this view. They state that the order of increasing toxicity is not that of the proportionate number of chlorine atoms but is independent of this. By hypodermic administration of the substances dissolved in oil they found the order of toxicity to be as follows: chloroform, 1; methylene dichloride, 2; and carbon tetrachloride, 14. They explain this by assuming a multivalent atomicity for chlorine, thus making chloroform an unsaturated compound. Assuming chlorine to be trivalent the following formulæ would represent the constitution of these bodies:—



Although in many cases—e.g., oxides of chlorine, chlorates, and perchlorates—chlorine must be regarded as multivalent there does not seem much reason for regarding it as such in the compounds under discussion, and even if it were multivalent it would be difficult to understand why tetrachlor-methane was so much less poisonous than dichlor-methane. The question seemed worth re-investigating notwithstanding the careful dosage employed by Heymans and de Buck. It seemed to me that the result obtained by them might be due to difference in absorption, a supposition supported by the fact that carbon tetrachloride is much less soluble in aqueous media than chloroform; it is also more irritant and possesses greater power of precipitating albumin. In order to obviate as far as possible unequal absorption the toxicity of the two bodies was determined (1) on fish which were allowed to swim in solutions of the same strength; (2) on frogs exposed to the vapour of the two compounds; and (3) on rabbits by means of intravenous injection. Fish placed in 1 in 4000 of carbon tetrachloride were more affected than those in a similar strength of chloroform, and the symptoms were different. The chloroform produced transient excitement followed by narcosis; the carbon tetrachloride irritation and muscular rigidity, the movements becoming stiff and slow and the tail taking on a permanent curve. In both cases death occurred in about an hour. Methylene dichloride was much less active than either of these substances. A solution of 1 in 2000 produced slight narcosis but not death. Similar effects were obtained from frogs when these animals were placed under a bell-jar with equal amounts of chloroform and carbon tetrachloride. The symptoms first appeared in the animal subjected to chloroform. In this case rapid narcosis and death occurred. In the frog exposed to carbon tetrachloride the narcosis was less deep and muscular rigidity was a prominent symptom. The difference in the time of onset and the severity of the symptoms was undoubtedly due to the difference in the volatility of the two substances and not to any inferior toxicity of the higher chlorinated compound. This latter was more slowly absorbed and the symptoms it produced were more slowly dispelled than was the case with chloroform. When frogs were exposed to the vapours of the drugs and removed as soon as distinct symptoms had developed these symptoms disappeared with rapidity in the case of the frog exposed to chloroform; and only with difficulty in that exposed to carbon tetrachloride. In rabbits the intravenous method was resorted to and considerable difficulty was experienced in finding a suitable medium for the administration of the drugs in this way. Finally, a solution in alcohol, varying in strength up to 55 per cent., was used, and this, containing the chloroform or carbon tetrachloride in solution, was injected into the marginal vein of the ear at the rate of one-half cubic centimetre per minute. In every case much less than the toxic dose of alcohol was employed. Two experiments in which a solution of 1 in 80 of chloroform and carbon tetrachloride respectively in 50 per cent. of alcohol were injected resulted as follows: 2·9 cubic centimetres of the tetrachloride solution quickly produced convulsions and death; 9·0 cubic centimetres of the chloroform solution did not kill for about 12 hours. With weaker solutions larger doses of carbon tetrachloride were given, but in all the experiments the greater toxicity of this drug compared with chloroform was evident. The symptoms, too, were somewhat different; carbon tetrachloride was less narcotic and much more depressant to the heart. Similar results were obtained in rats by intra-peritoneal injection of emulsions of these substances. There seems little doubt, therefore, that carbon tetrachloride possesses a toxicity greater than that of chloroform.

A comparison of these two substances, however, is open to the criticism that the organic radicles in the two cases are not identical. In chloroform we have a hydrogen atom forming with the carbon, a methine group which is not present in the tetrachlor-methane. Moreover, as we have seen, the symptoms produced by the two compounds are somewhat different. A more logical comparison would be that of carbon tetrachloride and carbon dichloride (C_2Cl_4) or carbon trichloride (C_2Cl_6). The latter is a solid and practically insoluble in water; the dichloride is a liquid and more comparable in physical properties with carbon tetrachloride. On investigating the toxicity of these bodies on fish the tetrachloride was found to be distinctively the most active. In solutions of 1 in 10,000 of this, minnows died in 40 minutes; in a similar strength of carbon dichloride they survived more than three hours. It seems, therefore, that as far as the chlor-methanes and allied bodies are concerned, the introduction of chlorine increases the true toxicity, although the apparent toxicity of higher chlorinated bodies, owing to diminished solubility or other property, may be less. But the introduction of chlorine into a fatty compound does not appear to be invariably followed by an increase in toxicity and hypnotic power. A remarkable exception is related by Mayer.[19] He found that the introduction of chlorine into butyric acid did not increase the hypnotic effect—in other words, sodium butyrate was more hypnotic than sodium trichlor-butyrate. The introduction of chlorine into acetic acid, on the other hand, produced the usual effect, sodium trichlor-acetate possessing distinct hypnotic properties, sodium acetate no hypnotic power at all.

In the main I can corroborate Mayer's results. After the intravenous administration of 1 gramme per kilogramme of butyric acid (as the sodium salt) to rabbits, somnolence and paresis were almost immediately produced, but the effect was transient and in two hours the animal was normal. A similar dose of sodium trichlor-butyrate administered in the same way produced a very slight immediate intoxication, but after an hour some depression and somnolence which lasted several hours. It appears, therefore, that the chlorine does possess some action, although this is somewhat tardy. In the case of lactic acid, however, the introduction of chlorine atoms seems to exert no influence whatever and 1 gramme per

[17] Archivio di Farm. e Terap., iv., 12, 1896.
[18] Archives de Pharmacodynamie, 1896, tome i., p. 1.
[19] Archiv für Experimentelle Pathologie und Pharmakologie, Band xxi., p. 137.

kilogramme of trichlor-lactic acid neutralised with caustic soda injected into the veins of a rabbit produced very slight depression and thirst, and no further effects followed the administration of 1·5 grammes per kilogramme two and a half hours afterwards. Sodium lactate administered in a similar way produced symptoms quite as marked.

Notwithstanding these exceptions there can be no doubt that in the majority of cases increase in the chlorine atoms of an aliphatic compound leads to an increase in the toxicity and hypnotic effect. This was found to be distinctly the case in the chlorhydrins which were investigated in my laboratory; and a similar influence has been observed in still more complicated compounds. Considering this influence of chlorine in organic combination Binz advanced an ingenious theory to account for the action of these bodies. "Certain experimental facts," he says, "appear to show that the haloid soporifics undergo some change in the tissues of the brain, the acid being liberated from the haloid bodies and then paralysing the protoplasm."[20] According to this view the hypnotic effect is a function of the amount of chlorine present, but this is not really the case. Mayer explains the abnormal effect of sodium trichlor-butyrate in this way. This substance, he says, has a greater attraction for the alkaline blood than the acid-reacting tissues, and he believes that a partial decomposition occurs at the time of injection. Kossa[21] thinks that the most important factor is the more or less firm union of the chlorine to the alkyl, and Buchholz[22] states that as regards the chlorhydrins at least the alkyl radicle is not without influence.

But whatever view of the intimate action of the halogen compounds be taken the general law holds good, if we take into account physical properties, that the more chlorine we introduce into an aliphatic molecule the greater is its hypnotic effect. Unfortunately, greater also is its toxic effect; and in the majority of cases the two effects seem to run parallel. This is an important point because it prevents us from utilising the hypnotic power of combined chlorine atoms to the extent we could wish in preparing new compounds. For it is obvious, *cæteris paribus*, that nothing is gained if by increasing the hypnotic power of a drug we at the same time increase its toxic action in an equal degree. What we require in any new remedy is an increased therapeutic efficiency with relatively diminished toxicity.

It is well known that the organic chloro-hypnotics exert a depressing influence on the circulation and it appears that by increasing the number of chlorine atoms we also increase this depressant effect. This subject was investigated by Marshall and Heath[23] in my laboratory. The substances used for this purpose were the glycerine chlorhydrins. These are liquid bodies, more or less soluble in water, the solubility diminishing with each increment of chlorine. For our present purpose they are best regarded as derivatives of glycerine which, as you are aware, is a trihydric alcohol. In mono-chlorhydrin one of the hydroxyls is replaced by chlorine, in di-chlorhydrin two, and in tri-chlorhydrin all the hydroxyls are replaced.

$CH_2 . OH$	$CH_2 . OH$	$CH_2 . Cl$	$CH_2 . Cl$
$CH . OH$	$CH . OH$	$CH . OH$	$CH . Cl$
$CH_2 . OH$	$CH_2 . Cl$	$CH_2 . Cl$	$CH_2 . Cl$

When injected into the circulation all the substances produce a fall of blood-pressure: 0·02 cubic centimetre of tri-chlorhydrin produced a greater fall than 0·066 cubic centimetre of di-chlorhydrin, and this a greater effect than 0·2 cubic centimetre of mono-chlorhydrin. A similar influence was obtained on the isolated heart and the blood-vessels and on striped muscular tissue. This depressant effect on the circulation has played an important part in the history of the therapeutics of organic chloro-compounds. Soon after Liebreich introduced chloral hydrate as a hypnotic in 1869 it was recognised that this depressant action would prove deleterious in some conditions. Liebreich himself stated that in heart disease chloral was contra-indicated. To overcome this depressant effect of chloral on the circulation various derivatives have been advocated. Von Mering recommended chloral-formamide (chloralamide); Poppi, chloral-urethane; Nesbitt, chloral-ammonia; and Richet, chloralose. Chloral-ammonia we may dismiss. It is undoubtedly less toxic than chloral and its influence on the circulation is less marked, but unfortunately it is unstable. After keeping some time it gradually becomes liquid and the smell of chloroform appears. According to my experiments it is the least toxic and depressant of all the chloral derivatives. Langgaard,[24] however, states that doses which produce a light and short sleep produce a marked lowering of blood-pressure and he says that the drug undergoes decomposition even in cold water. In any case its instability prohibits its use.

The effect of chloralamide on the circulation has been keenly debated. It was thought that the combination of an amide radicle—which is believed to possess to some extent the stimulating effect of ammonia upon the respiratory and vaso-motor centres—would diminish the depressant effect of chloral hydrate upon the circulation and respiration, and this was said by von Mering who introduced it to be the case. Similar statements were made by Kny, Reichmann, and Halász. Kny[25] said that the heart was only affected slightly and the blood-pressure was not reduced below that obtained in normal sleep, and Reichmann[26] and Halász[27] saw no injurious action on blood-pressure. Langgaard,[28] on the contrary, obtained a marked action—a slowing of the respiration and diminution of the vessel tone—even with slight hypnosis. He acknowledges a more gradual fall of blood-pressure with chloralamide than with chloral but thinks it is advisable to be careful in its administration in heart disease. Von Mering and von Zuntz[29] controverted Langgaard's statements. They say they have obtained complete anæsthesia without fall of blood-pressure. Liebreich[30] believes that its action is dependent upon the chloral it contains and that the formamide is an indifferent component. According to Bosc[31] it is "a bad chloral which we ought not to employ therapeutically."

Considering these divergent views it seemed worth while to make a few more investigations with it, particularly upon the circulation. It will be remembered that under the influence of alkalies chloralamide breaks up into chloral and formamide (which becomes ammonium formate) and that this change is supposed to take place in the blood and by some even in the intestines. In my experiments, having regard to Liebreich's view, the doses have been calculated as anhydrous chloral. Thus 1·3 gramme of chloralamide equal 1·12 gramme of chloral hydrate, which contains 1 gramme of anhydrous chloral, and these proportions have been used throughout. Numerous experiments have been made but only types of these will be given. One of the most important is a perfusion experiment through the vessels of a sheep's kidney; here dilute solutions could be used as nearly as possible under normal conditions. Complete solution and therefore equal dosage was insured and the chloralamide-poisoned blood was exposed for some time to a temperature slightly above that of the body. Under these conditions chloralamide was not found to be so active as chloral hydrate and its effect was more slowly manifested. In the following experiment the temperature of the ovens (39° C.) and the perfusion pressure (70 mm. Hg) were kept constant. (The numbers represent cubic centimetres flowing out of the renal vein per minute.) Normal blood, 4½, 4, 3½, 3; 1 in 500 chloral (as formamide), 3, 3½, 6½, 8½, 10. Normal blood, 12, 10½, 7½, 6, 6, 6; 1 in 500 chloral (as hydrate), 5½, 8, 13, 20. Normal blood, 18½, 11½, 7½, 5½, 4½; 1 in 500 chloral (as formamide), 4½, 5, 7, 9½, 11, 12½. Normal blood, 12½, 8½, 6½, 5½, 4½, 4; 1 in 500 chloral (as hydrate), 4, 7, 11, 15½, 19. Normal blood, 17½, 10½, 7, 5, 4.

Experiments on the hind legs of a rabbit with a solution of gum and salt—i.e., with no alkali, so that there could be no decomposition—gave a similar result. In cold-blooded animals (water tortoises) the action on the vessels was not so constant. Generally the effect was similar to that on warm-blooded animals, but occasionally the dilating effect of chloralamide was as marked as that of chloral hydrate or even slightly greater.

[20] Lectures on Pharmacology: English Translation, New Sydenham Society, 1895, vol. i., p. 199.
[21] Ungarisches Archiv für Medicin, Band xiii., p. 380.
[22] Dissertation, Marburg, 1896.
[23] Journal of Physiology, vol. xxii., p. 38.
[24] Therapeutische Monatshefte, 1889, p. 515.
[25] Ibid., 1889, p. 345.
[26] Deutsche Medicinische Wochenschrift, 1889, p. 31.
[27] Wiener Medicinische Wochenschrift, 1889, pp. 38–39.
[28] Therapeutische Monatshefte, 1889.
[29] Ibid., 1889, p. 565.
[30] Ibid., 1889, p. 568.
[31] Journal des Sociétés Scientifiques, 1890, pp. 27–29.

On the blood-pressure when injected intravenously chloralamide and chloral hydrate exert the same effect if administered in doses containing the same amount of anhydrous chloral. Thus in Fig. 6, which represents the blood-pressure tracing of a dog, 0·2 gramme chloral injected into the femoral vein produced almost the same fall of pressure whether given as chloralamide or as chloral hydrate. In the case of chloralamide, however, there seems to be a better return to the original height of the blood-pressure, due, it would appear, to more forcible cardiac contractions. Larger doses—0·9 gramme chloral (Fig. 7)—produced similar effects. In the case of chloralamide the medium pressure was reduced from 100 millimetres to 58 millimetres Hg, and it returned again to 98 millimetres Hg. With chloral hydrate the medium pressure fell from 98 millimetres to 56 millimetres and the return reached 97 millimetres Hg. But the fall of pressure in these cases is due in part to a heart effect and if this is avoided as far as possible by slower injection of the drug the greater influence of chloral hydrate on blood-pressure is distinctly brought out. To this I shall return in a moment. On the blood-pressure of the rabbit intravenous injection of the two drugs produced the same effect as in the dog. This is shown in Fig. 8.

But in order to compare the influence of the two drugs upon the circulation under more normal conditions the drug itself was used as the anæsthetic: that is, chloral or chloralamide was injected into the stomach or veins, and as soon as the animal was sufficiently "under" for operative purposes the carotid artery was connected with the manometer and the blood-pressure measured. When injected into the stomach the difference in solubility, and as a result the difference in absorption, of the two drugs leads to a variable quantity of each substance in the blood; but as the point we wish to determine is the arterial pressure when sleep is sufficiently deep to permit operation this is not of great moment. These points are brought out in the tracings. Fig. 9A represents the tracing from a rabbit to which one gramme per kilogramme of chloral as hydrate was given by means of the stomach tube. In 15 minutes the animal was well under and the operation was commenced. The first tracing was taken half-an-hour after the drug had been given and, as you will see, the blood-pressure is already very low, about half its usual height, and it gradually falls; but even after more than three hours a distinct pressure is still maintained and the respiration, although shallow, is still automatic. With the same dose of chloral as chloralamide a very different effect was obtained (Fig. 9B). The operation could not be commenced until after an hour had passed and then the animal was not so deeply "under" as was the case with chloral hydrate. The pressure in this case was little below the normal level when the carotid was joined to the manometer, and although it subsequently fell it rose again and was well maintained six and a half hours after the drug had been given. The explanation of so marked a difference is undoubtedly to be found mainly in the much slower absorption of chloralamide as compared with chloral hydrate, but this is not the whole explanation. In order to obtain a result with chloral hydrate more comparable to that of chloralamide another experiment was performed. In this 0·5 gramme per kilogramme was injected into the stomach of a rabbit, but as this proved insufficient another 0·5 gramme per kilogramme was given half-an-hour later. Immediately the animal was ready for operation the carotid artery was connected with the manometer and the pressure was taken. Although the animal did not seem to be more deeply narcotised than the chloralamide rabbit the blood-pressure was distinctly lower. Furthermore, in this case the respiration soon began to fail and the animal was allowed to die. In order to overcome the variability in absorption intravenous medication was resorted to. The animal was anæsthetised by injecting a certain amount of chloral, as hydrate or formamide, into the marginal vein of the ear. The solutions used were 1 in 30 and the injection was made at the rate of about two cubic centimetres per minute. As soon as the animal was "ready" for the operation this was commenced. In both cases the conditions were kept as nearly identical as possible. The tracings are shown in Figs. 10A and 10B. The pressure in the chloral hydrate tracing, although of a larger rabbit, is seen to be lower than that in the chloralamide one, but the subsequent fall is not proportionately greater. The respiration in the case of the chloral hydrate rabbit is seen to be more markedly influenced than in the chloralamide one and this effect seems to be constant. It bears out the view that first suggested the use of chloralamide as a hypnotic—that the amide radicle would probably act as a respiratory stimulant. In both experiments repeated injections of the drugs had to be given to maintain the anæsthesia and in the tracings a considerable fall of blood-pressure is noticed. In the chloralamide tracing it seems to be as great even as in the chloral hydrate. In that of the latter, however, a corresponding dose of chloralamide was given for comparison and here the effect is seen to be less marked than with the hydrate. We must therefore come to the conclusion that although when injected rapidly into the circulation chloralamide and chloral hydrate produce the same initial fall of blood-pressure, when given by the stomach or in any way in which the circulation is slowly reached the depressing effects of chloralamide on the heart and blood-vessels are less marked than those of chloral hydrate. The respiration also is not influenced to the same extent. The formamide group cannot therefore be inactive; it plays a part in counteracting the depressant action of the molecule quite apart from its influence in diminishing the solubility. From what I have said with regard to the vascular effects and the solubility of chloralamide we shall not be surprised to find that its toxicity is less than that of chloral hydrate. A dose of the latter corresponding to one gramme per kilogramme body-weight of anhydrous chloral is invariably fatal to rabbits within 24 hours, but these animals always recover from a similar dose given as chloralamide.

ON THE IMPORTANCE OF PLASTIC SURGERY IN RENAL DISTENSION (*i.e.*, NEPHRECTASIS);

WITH SPECIAL REFERENCE TO STENOSIS OF THE URETER.

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TWENTY-THREE years ago, in a paper on Intermittent Hydronephrosis,[1] I collected and tabulated 47 cases of hydronephrosis in which abdominal tumour had been caused by the renal distension. In several instances the cause of the nephrectasis was not ascertained, but in 26 cases the obstruction was found situated in the ureter and in five others calculus was present in the renal pelvis. In all the cases of renal calculus and in a goodly number of those in which the obstacles were in or about the ureters, had the aid of the surgeon been invoked, it is safe with our present experience to assert that the obstruction could have been removed and the lives of the patients saved without the resort to nephrectomy.

The number and variety of ureteral obstructions in these 26 cases were as follow:—1. A valve formed of mucous membrane and situated near the renal pelvis, two cases; in one both ureters were similarly affected. 2. Valvular formation caused by the obliquity of the ureter to the renal pelvis, seven cases. 3. Stricture, including contraction of not more than one inch in length—five cases. 4. Ureter compressed by a branch of the renal artery, abnormal or otherwise—two cases. 5. Calculus impacted in the ureter—five cases. 6. A fibrous band which passed along the brim of the pelvis from the promontory of the sacrum and compressed the ureter—one case. 7. Twist of the ureter on its own axis—one case. Both ureters were similarly involved. As soon as the ureters were dissected a little from the surrounding tissues and untwisted the accumulated urine gushed out freely from the renal pelvis. 8. Compression of the ureter by enlarged lymphatic glands situated between the uterus and the iliacus muscle—one case. 9. A considerable length of the ureter converted into an impervious cord—two cases. With the methods of operating on the ureter at the present time the renal distension from causes similar to most of the above can now be remedied without making an urinary fistula.

The pathological conditions named in the first four groups of the foregoing list are amenable to plastic operations on the ureter and renal pelvis. That of the fifth group is removable by ureterotomy, a very successful operation for

[1] Transactions of the Royal Medical and Chirurgical Society, vol. lix., 1876.

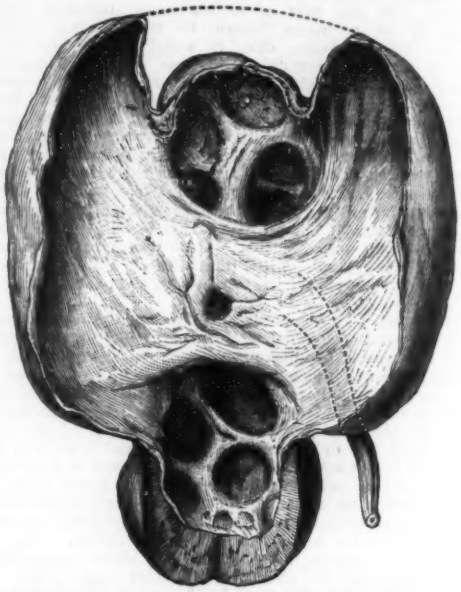
stone in the ureter, and now possible, no matter at what part of the ureter the calculus is impacted. A very slight operation after the ureter is once exposed at the involved part would suffice to remove without cutting the ureter itself—such causes as those in groups six and seven. It is only in the last two groups that we meet with causes of obstruction in which the renal distension could only be permanently relieved by establishing a fistula, or for which nephrectomy would now be adopted, and then only if there did not remain sufficient secreting structure to make it worth while attempting to save the kidney, or if the other kidney being quite sound the patient refused to endure a urinary fistula. In this communication attention is drawn only to the causes of nephrectasis mentioned in the first four groups of the above list. My remarks on the surgical treatment of these conditions are based on personal experience of five cases upon which I have operated within the last few years. It must be premised that a moveable kidney as well as an abdominal tumour due to hydronephrosis is frequently an accompaniment of these conditions of the ureter. It is also very important to know that the degree of hydronephrosis is not by any means always sufficient to produce an abdominal tumour either of an intermittent or peristent kind.

STENOSIS OF THE URETER.

Under this heading will be considered valvular obstruction as well as strictures of the ureter. These conditions cause intermittent, progressive impediment to the flow of urine and sometimes result in complete and permanent obstruction. After an obstruction has lasted for a longer or shorter time nephrectasis—i.e., renal dilatation—results—in the form of hydronephrosis if there has been no septic condition of the mucosa of the ureter or infundibulum; and in the form of pyonephrosis if the mucosa has been from the first or becomes subsequently to the development of hydronephrosis the seat of infective changes. In some cases in which the degree of dilatation is considerable enough to cause a renal swelling, whether moveable or not, the nephrectasis will probably be diagnosed, but its cause may not be suspected and if suspected it is not actually ascertainable without surgical operation. When dilatation has not gone on to the extent of forming a clinically recognisable renal swelling—and this may be the case when the renal pelvis is of the size of a small orange and the various calyces are as large as nutmegs—there may be nothing either in the symptoms or in the past history of the patient to suggest ureteral stenosis; and then the diagnosis made as to the cause of the symptoms will probably be renal calculus or renal tuberculosis. In cases in which the kidney on the affected side is moveable, whether nephrectasis is developed to the extent of a renal enlargement sufficient to cause an abdominal tumour or not, the mobility will most probably be credited with the symptoms, though it may be only a coexisting condition or possibly even a result of the stenosis. On the other hand, the mobility may have caused a valve formation in the manner to be explained immediately.

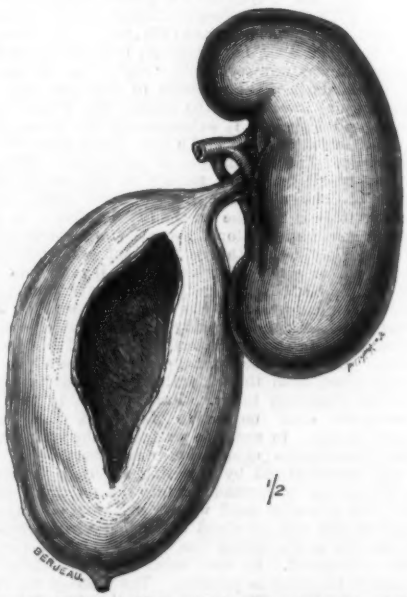
Etiology.—The commonest situation of valvular obstruction is near or at the junction of the ureter and renal pelvis. The cause of valve formation is not always the same. Sometimes it is due to a congenital defect. Sometimes it is a secondary result of a morbid or mechanical change in the lining membrane of the ureter or renal pelvis. During some temporary impediment to the outflow of urine, such as is caused by pregnancy, pelvic cellulitis, uterine myoma, ureteral calculus, or moveable kidney, a unilateral dilatation may occur in the renal pelvis at a part which has less resisting power than the rest of the wall. As this unilateral dilatation increases the ureter becomes drawn up more and more along the wall of the dilated renal pelvis and the ureteral opening becomes relatively higher and higher above the most dependent part of the hydronephrotic sac (Fig. 1). The ureter thus ceases to be an effective conduit for some part of the urine in the renal infundibulum. The urine in the dilated pouch of the renal cavity compresses the upper portion of the ureter, like an aneurysmal sac may compress the trunk of the vessel on which it is situated, and thus increases the obstruction in the upper end of the ureter. It often happens as this change in the relation of the ureteral orifice to the cavity of the infundibulum is progressing that a valve-like process of the mucosa or a prolongation of one side of the margin of the orifice is formed, and this itself becomes a further cause of obstruction. When a moveable kidney has been the original impediment, if a valve formation takes place it does so by preference at the infundibular orifice of the ureter, because owing to the fixation of the ureter to the peritoneum of the posterior abdominal wall it is here that the bend or kink in the tube is made by the recurring displacement of the kidney. Thus the obstruction affects directly the renal pelvis and dilatation commences at the weakest part of its wall. When the initial

FIG. 1.



Hydronephrosis with ureter as indicated by dotted line passing high up on the side of the sac. Two-thirds natural size. (Middlesex Hospital, No. 1767 A.) *Note.*—A bougie cannot be passed upwards from the ureter into the pelvis or downwards from the pelvis into the ureter, the curve at the hilum preventing.

FIG. 2.



Saccular dilatation of the ureter just below but not involving the renal pelvis. (Guy's Hospital, No. 1704.)

cause of obstruction is lower down—i.e., within the bony pelvis or even at the vesical orifice—the effect will still be felt by the renal pelvis as well as by the ureter, and dilatation commences at the weakest spot.[2] This is very frequently at the infundibulum, not in the ureter at all. In the recumbent position of the body, especially, the ureter may continue full without becoming dilated and the intrarenal tension then finds out and stretches the weakest spot in the renal pelvis. This is the first step towards the formation of a valve at the upper orifice of the ureter. The ureter in some cases yields whilst the renal pelvis and calyces escape. The very unequal degree to which the ureteral walls at different parts under the same pressure will dilate and become sacculated is shown by the accompanying figures (Figs. 2, 3, and 4), in none of which is the renal pelvis enlarged. The absence of any change in the renal pelvis is probably explained by the readiness of the ureteral walls to yield under pressure at the parts where the dilatations have been formed. The obstruction caused by the œdema accompanying uretero-pyelitis is another occasional cause of a valve

FIG. 3.

Child's kidney with sacculated ureter and hypertrophy of the bladder. (Westminster Hospital, No. 817.)

formation, the weakest part of the wall of the ureter or renal pelvis yielding under pressure in the way just described.

A specimen in my possession shows the commencement of a valve by the infolding of the mucous membrane at the site of an impacted calculus. The valve looks like two semilunar folds compressed against the ureteral wall.

Stricture of the ureter may be situated at any part of the tube. It may be congenital or acquired. The congenital stricture occurs as an hour-glass contraction sometimes in very slender ureters of very small calibre and of great

FIG. 4.

Irregular dilatation of the ureter. (Guy's Hospital, No. 1688.)

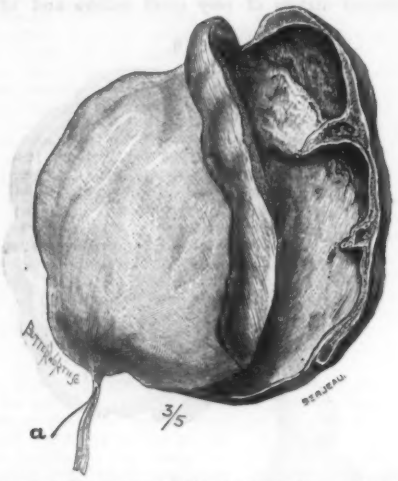
tenuity of structure (Fig. 5), and sometimes in tubes of otherwise normal strength and calibre. They are most frequent close to the renal pelvis. Constrictions are also caused by abnormal conditions of the vessels at the hilum of the kidney. There is a specimen in St. Bartholomew's Hospital Museum[3] of a hydronephrotic kidney in which the ureter was compressed by an adherent aberrant renal artery, and the specimen in Guy's Hospital Museum from which Fig. 6 was taken shows a twist and a constriction of the ureter where it passes over one of the renal vessels. The illustration from the *Johns Hopkins Hospital Bulletin* (Fig. 7) shows kinking of the right ureter where it is crossed by the right ovarian vein, but as the ureter is

[2] See remarks by author made in November, 1893, and reported in the Transactions of the Medical Society of London, vol. vii., p. 81.

[3] Pathological Series, 2375 A.

dilated below as well as above this spot this dilatation must have been due to the adhesions caused by the cancer of the uterus and vagina which existed; and the kinking and constriction by the vein.

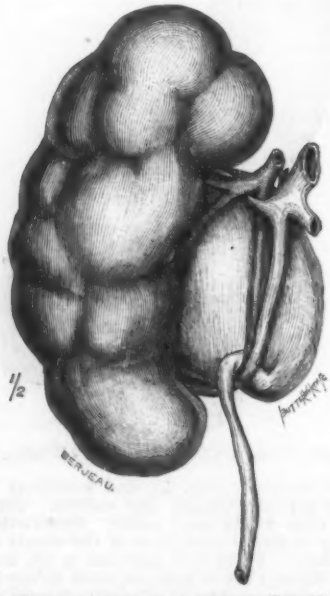
FIG. 5.



Hydronephrosis and constriction of the ureter. *a*, Constriction at the junction of the ureter and the renal pelvis. (Guy's Hospital, No. 3262.)

The acquired strictures result sometimes from injury, sometimes from cicatrices following ulceration caused by ureteritis or from the temporary impaction of a renal calculus, sometimes from sclerosis of the cellular tissue around the ureter following an abscess or the repair after

FIG. 6.

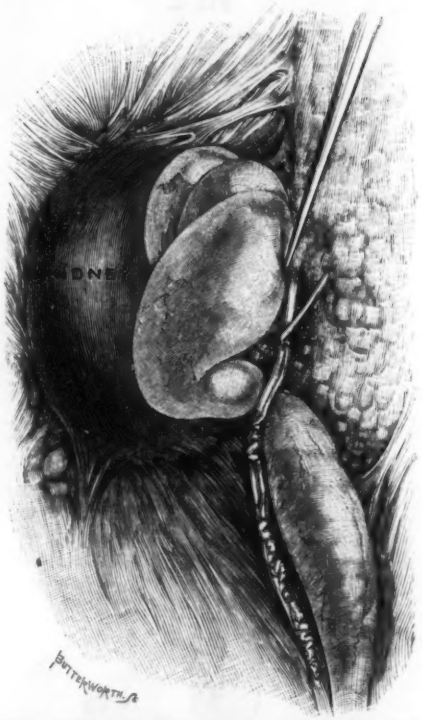


Hydronephrosis. Ureter compressed by renal vessel. (Guy's Hospital, No. 1694.)

an operation, and sometimes from the contraction of adhesions left after perinephritis and periureteritis. In some cases, as the effects of the passage of a renal calculus or after ureteritis, the ureter may be left strictured in several places. I have seen this more often in tuberculous ureteritis, the walls of the ureter over much of its length being thickened, but the tube patent throughout, and where not strictured much increased in diameter. By simple chronic ureteritis the tube is sometimes made sinuous in its course with sigmoid inflections and its calibre undergoes considerable alteration, being strictured in one place and dilated at another. The strictures are constituted by folds, bridles, or valves and occur chiefly at those parts of the ureter which are normally narrower than the rest of the canal.

Symptoms.—Obstruction by valve formation or strictures may occur at almost any age. It appears to be most frequent in females about thirty years of age and in the right ureter; but it has been met with also in males, both boys and men. It may be associated with a moveable kidney or with a tumour, either permanent or intermittent, caused by nephrectasis. It has been stated above that moveable kidney may be the cause of a valve formation; but, on the other hand, there is reason to believe that a stenosed ureter by causing obstruction to the outflow of urine and thereby adding to the weight of the kidney may

FIG. 7.



Kinking of the right ureter from the passage of the right ovarian vein over the dilated ureter. "Two Cases of Ureteral Abnormality," George Blumer, M.D. (Johns Hopkins Hospital Bulletin, vol. vii., Nos. 66 and 67, September and October, 1896.)

induce mobility of the kidney by increasing the dragging effect on the organ. This view is supported by cases in which patients who have been under observation or treatment for years for other symptoms due to the stenosis have shown no evidence of mobility of the kidney till a late stage. Most of the patients describe attacks of pain in the loin or groin, recurring at intervals of weeks or months over a period of one or many years. The pain often extends downwards over the abdomen from the hypochondrium, spreads to the hip and thigh, and to the labium in woman, and the scrotum and testis in man. One female patient complained of great hyperæsthesia of the whole of the external genitals. The pain is often ushered in with vomiting or nausea, sweating, or by a general sense of illness, with fever and restlessness, or by a feeling of great coldness which has been known to continue during the greater part of the attack. The attacks of pain vary in duration, sometimes lasting only for hours, sometimes continuing with more or less constancy and

severity for two, three, or more weeks. In the intervals between the attacks there may be a nearly constant dull aching in the loin; and in one of my patients who had this constant discomfort an attack was induced by every slight exertion or any exercise. In most cases there has been observed a marked decrease in the amount of urine passed during the attacks, and after a longer or shorter time an enlargement of the kidney may occur with each attack of pain and scanty urine. The urine may be voided with difficulty and pain and there may be frequent desire to micturate. It may be quite normal or may contain only a few blood corpuscles or numerous crystals of oxalate of lime, or it may be of a dark chocolate colour from the presence of blood and urates.

Pus has been found in small quantities in some cases, and if the obstruction has followed an inflammatory condition of the tube or renal pelvis its presence is to be looked for. In other cases the urine deposits a thick mucus after standing and then cystitis is apt to be diagnosed and the bladder submitted to much useless treatment in consequence. In one of my cases the urine was examined every day for three weeks during an interval between the attacks and neither blood nor pus was once found, yet during a subsequent attack four months later the urine contained a large quantity of blood. This was in a patient with hour-glass contraction at the junction of the ureter and renal pelvis who had suffered pain of a sharp tearing character in the right loin and right side of the abdomen at intervals of a month over a period of 12 years. (Case 10 in subjoined table.)

Tenderness in the flank, and especially on bimanual examination, is a common symptom whether there be renal tumour or not. The kidney, whether enlarged or not, will very probably be moveable if the symptoms have existed for some months. Pressure over the front of the kidney, besides giving pain and tenderness, may cause hardening from contraction of the parietal muscles on the same side of the abdomen.

In some cases the bladder has been the seat of the earliest or the only marked symptoms, such as great frequency of micturition, inability to retain the urine a moment after the desire is felt to expel it, pain on passing urine (sometimes so agonising as to cause the patient to scream out loudly; Case 1 in subjoined table), and pain in the bladder increased by walking or movement of any kind and by the action of the bowels. In other cases the state of the bladder assumes importance at a later date, the earlier symptoms being confined to the region of the kidney itself. In others, again, the symptoms from the first have reference both to the kidney and the bladder; thus one of my patients with an hour-glass contraction at the junction of the ureter and renal pelvis had from the first intermittent periods of aching in the right kidney (which was very moveable) associated with very frequent micturition, sometimes amounting to incontinence; the urine at these times became very thick and offensive and contained microscopic quantities of pus.

If the stenosis is at the vesical end of the ureter the bladder symptoms are perhaps more likely to predominate, but it should be remembered that they are also excited by obstruction at the upper end of the tube. Occasionally an irritation or a feeling of constriction in the rectum has given rise to a suspicion of stricture of the bowel.

The local symptoms are sometimes much increased at the menstrual period and when recurrent may only appear at these periods. If the kidney is moveable the attacks are less likely to be attributed to the pelvic organs, because it is quite common for the symptoms of moveable kidney to be aggravated at the time of the catamenia. If the kidney is not moveable a mistaken diagnosis is probable; the uterus has been uselessly treated for displacements and the uterine appendages removed without any beneficial result.

When a stricture is situated in that portion of the ureter which is within or below the broad ligament vaginal palpation may assist towards a correct diagnosis. The ureter may be felt cord-like and tender in the cellular tissue of the anterior wall and roof of the vagina, and as it extends from the neighbourhood of the cervix uteri backwards, outwards, and upwards along the wall of the bony pelvis for three inches. This cord is sometimes very distinct, as large or larger than a No. 12 English catheter, and can be rolled about under the finger tip; or the strictured part has been felt like a hard, nearly immoveable mass and mistaken for an inflamed adherent ovary. But similar conditions of the ureter are produced by tuberculous and other forms of ureteritis. The endoscope reveals nothing, but catheterisation of the ureter may detect a stricture, especially when situated near the vesical end. On passing the ureteral catheter from the bladder it will meet with resistance and on withdrawal will very likely be grasped by the stricture like a catheter when withdrawn through an urethral stricture.[4]

When the stenosis is situated at the renal end of the ureter and there is no nephrectasis, catheterisation of that tube can afford no information in the absence of pus or blood in the urine from that kidney alone; nor is it probable that a simple valve formation at any part of the tube could be detected by upward catheterisation. If the catheter is used its correct course along the ureter should be verified by retaining the instrument sufficiently long to allow of the escape of a little urine through it. Kelly has pointed out that when there is dilatation of the ureter above the stricture this condition can be diagnosed by drawing off with the ureteral catheter in a few minutes such a quantity of fluid as it is manifestly impossible for the kidney to secrete in that length of time.

The general symptoms to be looked for are of a neurasthenic and gastro-intestinal character. These are an indisposition to any form of exercise or exertion and a great sense of muscular weakness. A languid feeling between the attacks is often complained of by these patients. The patient loses flesh and gets all sorts of dyspeptic symptoms brought on by the pain and spasmodic attacks by the troubles of micturition, and by the loss of rest and the frequent confinement to bed or the bedroom to which their sufferings constrain them.

If the kidney is moveable or a renal tumour is caused by the nephrectasis any of the symptoms described under these headings may be present.

Treatment.—In every case in which symptoms exist and are thought to be due to a valve formation or to a single stricture of limited extent, and in which nothing abnormal about the ureter can be felt by vaginal or rectal palpation, an exploration of the kidney and ureter through the loin should be made. The surgeon should not wait for mobility of the kidney or a hydronephrotic tumour to be superadded to the other signs. If these cases were operated upon early there is good reason to believe that a certain number of moveable kidneys would never have become so, and very certainly hydronephrosis would be less frequently met with.

The operation.—When the kidney is exposed and separated from its investing fatty tissue it will very frequently present a tense cystic swelling of the renal pelvis of the size of a Tangerine orange or larger, and the kidney substance may be felt to be more or less flaccid and thinner than normal. This is often found to be the condition on exploration in cases in which clinically no renal enlargement has at any time been discovered. The contents of the sacculated kidney should now be let out through a small incision in the back of the renal pelvis. A calculus should be sought for by palpating the whole kidney between the fingers and thumb and then by invaginating the renal pelvis on the tip of the finger introduced at the hilum of the kidney. If there is nothing to indicate the presence of even a minute renal calculus the renal parenchyma need not be incised, but the upper inch or more of the ureter should be cleared. If there be a stricture or an hour-glass contraction at or near the juncture of the renal pelvis and ureter it will be now seen. If a valve formation exists there may be no indication whatever of it on the outside or there may be a constriction or a thickening on the ureteral wall. If the ureter is obstructed by an abnormal arrangement of the renal vessels at the hilum this will now be seen. If no cause of obstruction is visible the ureteral catheter should be introduced through the opening in the back of the renal pelvis and passed along the ureter towards the bladder. Should the catheter reach the bladder without meeting with resistance and the kidney be very moveable the inference will be that the kinking or twisting of the ureter from time to time by the movements of the kidney has been the cause of the symptoms and that nephropexy is all that is required. I have seen in some cases of intermittent obstruction from moveable kidney a spiral twist impressed on the ureter or an indentation with a local thickening of the wall near its junction with the renal pelvis, and yet a bougie readily traversed the lumen of the duct from the renal pelvis to the bladder.

[4] See Kelly's case, Johns Hopkins Hospital Report, vol. xi., September, 1890, No. 234.

If there is a valve formation, of which, be it remembered, no trace may exist on the outside of the ureter or renal pelvis, the catheter as it is passed will meet with the obstruction. There is often a little difficulty in at once hitting off the ureteral orifice; this is, however, easily overcome by making the ureter taut and steadying the point of the bougie between the left fore-finger and thumb placed on the outside of the neck of the ureter; but in several instances of nephrectasis—especially when the ureter is adherent in part of its length to the wall of the cyst—it is impossible to pass the instrument downwards owing to the valve-like fold of mucous membrane at the ureteral orifice which impedes the catheter as it does the natural flow of urine from the renal pelvis. This was so in the case from which Fig. 1 was made. When this is the case an incision should be made in the ureter just below the obstruction, through which a bougie should be passed upwards into the renal pelvis if possible (it is not always) as a preliminary step to the division of the stricture or valve.

When in addition to the sacculation of the kidney and the distension of the renal pelvis the ureter also is dilated, the obstruction will be found lower down, sometimes in the abdominal section of the ureter, but much more likely below the brim of the bony pelvis, probably close to, or at, the vesical orifice of the ureter, or in the female between the folds of the broad ligament.

1. Supposing the stenosis to be due to a valve or hour-glass contraction or stricture at the common situation—viz., at or near the pyelo-ureteral junction—the cause of obstruction should be divided by a longitudinal incision, extending through the tissues to a little way above and a little way below the stenosed area. Then the angles of the longitudinal incision should be drawn together by means of a fine silk suture carried in a small needle, straight or curved, as is found most convenient; this done, the longitudinal wound is converted into a transverse one, and one or more additional sutures are inserted to close it securely. If the walls of the tube are thick enough to give a sufficient hold to the sutures the mucous lining should not be penetrated by them, otherwise the sutures must pass through the whole thickness of the walls. The ureteral bougie or catheter should then be withdrawn and the small wound in the renal pelvis or ureter below the obstruction through which the bougie was introduced should be closed by one or more transverse sutures passed in the manner of Lembert. There is little fear after this operation, if the ureter be of normal calibre, that subsequent obstruction will follow from contraction of cicatricial tissue. The retention of the bougie within the ureter for two or three days is not to be recommended; it delays healing and it is liable to be followed by a temporary fistula. It is apt to excite ureteritis and there may be marked difficulty in removing it owing to deposit of salts upon it.

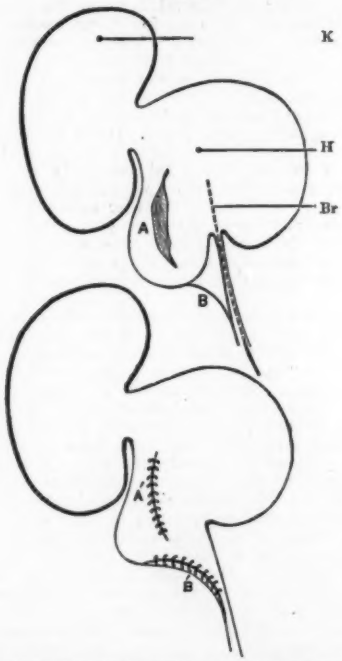
2. When the ureter is adherent to the wall of the hydronephrotic sac and opens some distance up in the side of it the ureter should be divided down to the lower part of the sac and the divided edges of the ureter should be sutured with fine silk sutures passed by Lembert's method to the divided borders of the lowest part of the sac. In this way the ureteral opening is removed from the side to the bottom of the renal pelvis and remains quite patent. In cases in which the ureter is running up some distance upon the hydronephrotic sac and a valve-like fold projects over the entrance from the renal pelvis into the ureter the valve may be divided from the inner side. This is done by making an incision of from three-quarters of an inch to an inch in length through the posterior wall of the renal pelvis; whilst holding this open with forceps the valve should be divided with scissors or with a tenotomy knife by cutting through the mucosa and muscular wall of the renal pelvis and ureter, but without cutting into the surrounding cellular tissue. The ends of the incision should be united by sutures passed from without through the cellular and muscular layers of the wall, but not, if it can be avoided, through the epithelial lining. The opening into the ureter is thus much enlarged and brought down to the lowest part of the sac. The opening in the posterior wall of the renal pelvis is now closed by one or two sutures passed across the line of incision (Fig. 8).

3. When in addition to the ureter opening on the side of the hydronephrotic sac a stricture occupies the ureter a little lower down Küster's operation should be followed—namely, resection of the involved part of the ureter and implantation of the divided ureter into the lowest part of the renal pelvis. It is advisable to split the ureter a little way before joining it to the renal pelvis, as Küster did, so as to increase the size of the ureteral aperture (Fig. 9). I adopted resection in one case but abandoned it, when completed, for nephrectomy because the age and general condition of the patient together with the extreme tenuity of the ureter made me doubtful of success. If the stricture is so long that the cut ends of the ureter cannot be brought together after resection, or if the stricture involves the part of the ureter within the bony pelvis and the proximate end cannot be brought to the bladder to be there grafted, resection is out of the question, as it will be impossible to re-establish the passage from the kidney to the bladder. Before performing any of these operations the patency of the ureter in the rest of its course must be ascertained, otherwise the operations are useless.

4. Alsberg,[3] after performing lumbar nephrotomy in a case of left hydronephrosis, kept open a fistula and dilated the ureter by bougies passed through the wound. For 10 days after the nephrectomy all urine passed through the wound, then it began to pass by the bladder. Some months later the lumbar fistula was closed and the result seems to have been good, as the hydronephrosis did not reappear. This method involves a long convalescence with a prolonged temporary fistula; there is the risk of recontraction of the stricture and it is not applicable to cases of valve formation. One of the other methods (Nos. 1, 2, or 3) is to be preferred. With any of the operations just described, if the kidney is moveable nephropexy ought to be performed at the same time.

When the stricture is situated below the brim of the true pelvis it cannot be reached by an incision in the loin, and if a plastic operation is performed the pelvic portion of the ureter must be exposed by one of the methods now

FIG. 8.



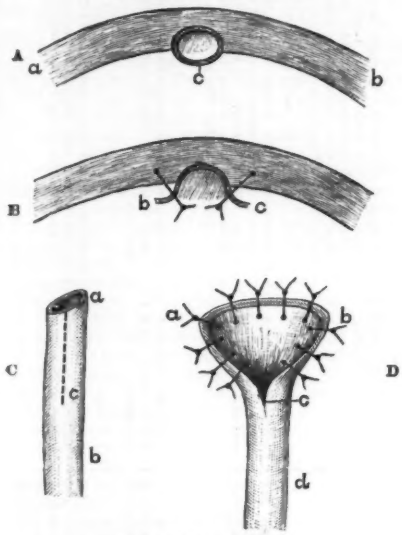
Modified from Mynter's diagrams. These figures show how by slitting down the wall of the sac and of the ureter and suturing the ends of the incision together the ureteral orifice becomes a long, funnel-like opening at the bottom of the sac. A, Opening in sac wall. B, Position for incision before operation. A' and B', After operation. (*Note.*—The sutures are too numerous in the illustration.) K, Kidney. H, Hydronephrosis. Br, Bristle passed through the ureter into the sac.

[3] Verhandlungen der Deutschen Gesellschaft für Chirurgie, XXI. Congress, 1892, p. 43.

resorted to in performing ureterotomy. Such an operation must be done or a lumbar fistula must be established if the opposite kidney is not in working order, but if the opposite kidney is good and the kidney on the affected side is in an advanced state of hydronephrosis nephrectomy should be performed.

Catheterisation.—When the stricture is close to the bladder dilatation by fine bougies passed upwards from the bladder has been tried. Strictures of the ureter are reported to have been cured in this way by Pawlik and Kelly. Pawlik's case[6]

FIGS. 9 A, B, C, AND D.



Showing Küster's operation.

FIG. A.—*a*, *b*, Sac wall. *c*, Transverse section of ureter.
FIG. B.—*b*, *c*, The ureter in transverse section split on anterior side. At *b* and *c* sutures which connect the borders of the split to the wall of the sac.
FIG. C.—*a*, The upper mouth of the ureter running in the wall of the sac, *a*, *b*. *a*, *c*, Split line of the same in the anterior part of the canal.
FIG. D.—The cleft walls of the canal pulled apart and fastened at *a*, *b*, *c* flat on the wall of the sac.

was one of pyonephrosis and a cure was effected after 30 successive soundings. In a case recorded by Kelly the patient was catheterised six times at intervals of 10 or 12 days; every introduction of the catheter was followed by most marked aggravation of previously existing pain, each exacerbation lasting some days. Though temporary relief followed, the symptoms again returned and an uretero-vaginal fistula had to be established. Ureteral catheterisation in the treatment of stricture is not to be recommended; it is a difficult procedure and one which is revolting and painful to the patient. Sometimes it is excruciatingly painful in its after effect. To be of any benefit it must be frequently repeated and the result has not been permanent even after continuous treatment for many months and the introduction of the catheter more than 120 times.[7] Moreover, in one case at least in which the catheter was employed upon a stricture situated just below the pelvis of the kidney the vesical orifice of the ureter was torn and subsequently became completely closed. Urinary fever is an occasional consequence of ureteral catheterisation, shivering, a temperature of from 102° to 104° F. with rapid pulse, headache, sleeplessness, nausea, and pain in the regions of the side catheterised being experienced.

Kolpo-ureterotostomy.—After the failure of other treatment, including the establishment of a vesico-vaginal fistula in a case of ureteral stricture of the left ureter about on the level of the cervix uteri, Kelly opened the ureter longitudinally through an incision three inches in length through the antero-lateral vaginal wall and the mucosa of the ureter was sutured to the vaginal mucosa, thus establishing an orifice high up in the vagina to the left four inches from the external ureteral orifice and just in advance of the cervix. The strictured part of the ureter was just above this orifice and was dilated by means of a pair of delicate curved forceps passed through the orifice.[8] We are not informed of the ultimate result of this operation beyond the significant fact that twice subsequently there was a return of all the old symptoms owing to small calculi becoming impacted in the ureteral orifice, and that a catheter was passed from time to time through the stricture, apparently for the purpose of keeping up dilatation. All the objections to an uretero-vaginal fistula are attached to this treatment, and with the fistulous opening in the distal side of the stricture there is further the necessity of subsequent catheterisation to keep the stricture dilated. The operation cannot he recommended. If the other kidney is sound nephrectomy should be performed and if it is not sound and a vesical grafting cannot be done or fails a lumbar fistula is preferable. A permanent lumbar fistula is to be preferred to a uretero-vaginal fistula because the fistulous opening in the loin can be more readily kept clean and aseptic and a portable urinal can be more conveniently worn there than over the vulva.

Ureteral grafting.—When the obstruction is within from one and a half to two and a half inches of the bladder and it is necessary to save the obstructed kidney one of the methods of uretero-vesical grafting should be tried before establishing a permanent fistula either in the vagina or loin, but with a sound kidney on the opposite side and an advanced hydronephrotic condition of the obstructed kidney nephrectomy is the best treatment, but not otherwise.

Nephro-ureterectomy.—When a great length of the ureter is infiltrated with inflammatory or tuberculous material and is widened and rigid in some places and strictured or contracted in others it is not probable that anything short of nephro-ureterectomy will be of any use.

Ureterotomy for stricture was performed by Fenger of Chicago in November, 1892,[9] on a man, aged 47 years, with stricture of the ureter close to the renal pelvis. Fenger first did lumbar nephrotomy and found the kidney sacculated but could find no stone in the calyces or renal pelvis. The ureteral entrance could not be found through the wound in the kidney. The dilated pelvis was then incised on its posterior aspect, but still the opening of the ureter could neither be seen nor felt. The ureter was then isolated. Its upper end for half an inch was found to be embedded in cicatricial tissue. Lower down the ureter was normal. A longitudinal incision one centimetre in length was made in the ureter just below the cicatrix. The sound could now be easily passed down into the bladder, but when passed upwards its progress was stopped by a stricture situated immediately below the renal pelvis. The stricture was one centimetre in length and the ureter below it was somewhat narrowed. The stricture was then incised upwards into the pelvis. A plastic operation was performed similar to that of Heinecke Mikulicz for stenosis of the pylorus—that is, the ureter was united to the pelvis on that principle. The pelvic wound was united by sutures. No bougie was left in the ureter. A drainage-tube was passed into the renal pelvis through the wound in the kidney. The patient was well in six weeks.

Ureterotomy for valve formations.—Simon was the first to propose to operate for these conditions. His suggested method was by the abdominal route.[10] Trendelenburg in 1890 was the first to make the attempt also from the front of the abdomen. This he did by lateral laparotomy.[11] He opened the anterior wall of a large hydronephrotic sac, saw the ureteral opening on the side of the sac, and divided the ureter down to the lower part of the sac, to the inner wall of which he sutured the divided borders of the ureter. The ureteral opening was then displaced from the side to the bottom of the sac in order to keep the ureter patent. The result of this operation is uncertain as the patient died from ileus. Fenger[12] was the first who successfully operated by the retro-peritoneal route. His patient was a woman, aged 28 years, who was suffering from a somewhat floating kidney and intermittent pyonephrosis supposed to be due to stone. On May 31st, 1892, nephrotomy was performed through the convex border of the kidney—no stone was discovered.[13] Catheterisation

[6] Albarran and Lluria: Comptes Rendus de la Société de Biologie, 1891, vol. iii., No. 24, p. 543, No. 26, p. 587.
[7] Kelly's Operative Gynæcology.
[8] Kelly: Johns Hopkins Hospital Reports, vol. ii., September, 1890.
[9] Case 4, Chicago Medical Recorder, vol. iv., No. 3, p. 165, new series, March, 1893. No. 4 in subjoined table.
[10] Chirurgie der Nieren, vol. ii., Stuttgart, 1876.
[11] Volkmann: Sammlung Klinischer Vortrage, No. 355, 1890, p. 3378, and No. 12 in subjoined table.
[12] Op. cit., Case 3 in subjoined table.
[13] Op. cit., Case 3, p. 164.

THE FOLLOWING TABLE CONSISTS OF CASES OF OPERATION FOR STRICTURES AND VALVULAR OBSTRUCTIONS OF THE URETER.

No.	Surgeon and date.	Sex and age.	Nature and situation of obstruction.	Right or left side.	Leading symptoms.	Mistaken diagnosis.	Nature of treatment.	Result.
1	Kelly (Johns Hopkins Hospital Bulletin, September, 1890, p. 234).	F.	Stricture found situated about opposite to the cervix uteri.	Left side.	Great pain and irritability of the bladder, aggravated at menstrual periods.	Thought at first to be due to cystitis. Later considered as ovarian and the ovaries were removed.	A uretero-vaginal fistula was established and the stricture was dilated through the opening.	Permanent fistula resulted.
2	Küster (Archiv für Klinische Chirurgie, xliv., 1892, p. 850).	M., 11 years.	Two strictures present: one at the junction of the ureter with the renal pelvis and the other about two centimetres lower down.	Left side.	Long-standing hydronephrosis.	—	Resection of the ureter. Part of the ureter with stricture excised and the end sutured to the renal pelvis. (The patient had only a single kidney and for two years had passed all his urine through a fistula following lumbar nephrotomy.)	Recovery. Fistula closed and urine was passed naturally.
3	Fenger, May, 1892 (Chicago Medical Recorder, March, 1893, p. 164).	F., 28 years.	Valvular stricture of the renal pelvic orifice of the ureter in a somewhat floating kidney.	Left side.	Frequent attacks of pain, with occasional presence of a tumour. Occasional pyuria.	Diagnosis: intermittent pyonephrosis, stenosis in the pelvis or ureter; possibly from stone.	Kidney incised and explored. Valvular obstruction reached through posterior surface of ureter; divided transversely and the ends of the incision united by sutures. A bougie was inserted through the wound in the kidney and brought down into the ureter and retained there for two days.	Disappearance of symptoms. Complete recovery.
4	Fenger, Nov. 26th, 1892 (Chicago Medical Recorder, March, 1893, p. 165).	M., 47 years.	Stricture one centimetre in length just below the pelvis of the kidney. Supposed to have been of traumatic origin.	Left side.	Intermittent hydronephrosis with pus in the urine.	Thought probable that a calculus was present.	Stricture incised and sutured by the Heinecke-Mikulicz method.	Good recovery. Wound healed perfectly.
5	Van Hook (Journal of the American Medical Association, Dec. 16th, 1893).	M., 13 years.	Valvular obstruction just below the renal pelvis.	Left side.	Pyonephrosis.	Possibility of calculus.	Resection of the strictured part and implantation of the end of the ureter into the sac was performed, but was found useless, as another stricture was discovered lower down. Nephrectomy was therefore performed.	Recovery.
6	Mynter, 1893 (Annals of Surgery, December, 1893, p. 658).	M., 25 years.	Valvular obstruction at the junction of the ureter and renal pelvis.	Right side.	Periodical attacks of pain every two or three months for 12 years. Urine scanty during attacks. Microscopically oxalate of lime crystals and a few blood corpuscles were found.	Thought to be due to renal calculus.	Kidney hydronephrotic. Valve divided longitudinally and the edges pulled outwards and united to the sac of the pelvis so as to form a funnel-shaped opening.	Good recovery. Wound healed well.
7	H. Morris, Oct. 22nd, 1897.	F., 57 years.	Ureter found running obliquely in the wall of the renal pelvis which was dilated.	Left side.	Symptoms for nine years. Intermittent hydronephrosis.	Had been diagnosed as a case of calculus.	Resection of the ureter. Excision of three-quarters of an inch of the ureter performed and the edges sutured to the renal pelvis, but on account of the small calibre and extreme tenuity of the ureter it was considered best to perform nephrectomy. Kidney very small and sacculated.	Recovered.
8	H. Morris, February, 1898.	F., 29 years.	Stricture at the junction of the ureter and renal pelvis; barely admitted the smallest ureteral catheter. Pelvis of kidney distended to the size of a cricket-ball.	Right side.	Intermittent pain for five months. Tenderness in loin. Very frequent micturition and pyuria.	Symptoms thought to indicate renal calculus.	Constriction of the ureter longitudinally divided upon a catheter and ends of incision drawn together by the Heinecke-Mikulicz method. Nephropexy also performed as the kidney was moveable.	Wound healed by first intention. Entire disappearance of symptoms. Is quite well and was delivered of full-time infant in March of this year (1899).
9	H. Morris, April, 1898.	F., 30 years.	Valve-like ingrowth obstructing ureter just below the pelvis of the kidney.	Right side.	Paroxysmal attacks of pain in the right loin for 10 months. Hæmaturia and pyrexia.	Symptoms thought to indicate renal calculus.	Constriction incised longitudinally and the ends united by the Heinecke-Mikulicz method.	Total disappearance of symptoms. The patient reported herself as quite well in June, 1899. Urine normal.
10	H. Morris, November, 1898.	F., 30 years.	An hour-glass constriction of the ureter just below the renal pelvis. Kidney hydronephrotic.	Right side.	Attacks of pain accompanied by diminished urine and sometimes hæmaturia. Pain and tenderness over the region of the kidney on palpation.	Symptoms thought to indicate renal calculus.	Stricture divided by a longitudinal incision a quarter of an inch in length. Ends joined by the Heinecke-Mikulicz method.	All symptoms disappeared. The patient reported herself on June 6th, 1899, quite well; the scar of the incision firm; no pain or tenderness.
11	H. Morris, May, 1899.	F., 29 years.	Tight stricture found in the ureter situated about one and a half inches below the brim of the true pelvis. Kidney hydronephrotic and moveable.	Right side.	Attacks of pain accompanied by diminished urine.	Symptoms thought to be due to calculus.	Nephrectomy. The kidney was so extremely wasted it was not worth saving by extending the abdominal incision downwards nearly to Poupart's ligament, as would have been necessary in order to divide the obstruction.	Patient made an uninterrupted recovery and is now quite well.
12	Trendelenburg, 1890. (For details see text.)	—	—	—	—	—	—	—

of the ureter through the incision in the kidney was found to be impossible. The renal pelvis was opened on its posterior surface and a valvular opening from the pelvis of the kidney into the ureter was discovered. "The valve was divided transversely and the ends of the incision were united by a suture. A bougie was inserted through the wound in the kidney and brought down into the ureter and retained there for two days. The wound in the pelvis was united by sutures. The floating kidney was secured by nephrorrhaphy and the wound in the kidney drained. The patient recovered without fistula and up to the present time (March, 1893) has had no return of the pyonephrosis." The second successful operation was performed by Herman Mynter on August 14th, 1893, on a man, aged 25 years, with intermittent hydronephrosis of 12 years' duration and valvular stricture of the pelvic orifice of the ureter. Calculus was diagnosed as the cause of the obstruction, but none was found on exploratory nephrotomy. Mynter describes his operation thus:[14] "After the kidney was exposed a fluctuating swelling was seen as large as an orange, below and to the inside of the kidney, containing a clear watery fluid, and being a hydronephrosis. An incision an inch long was made in its lower end and about half a pint of fluid was evacuated. The finger was introduced and the kidney was explored for stone, but none was found. By spreading the incision laterally the opening of the ureter could be seen plainly. It appeared as a papilla extending a quarter of an inch into the cavity. A flexible bougie, No. 14, French scale, was introduced with ease into the bladder, showing the ureter to be permeable through the whole length. I could find no other cause for the recurrent hydronephrosis than this abnormal condition of the ureter. The kidney was not more moveable than normally. I therefore enlarged the incision downward through the papilla and well into the healthy ureter, pulled the margins of the wound outwards with fine hooks, and united the wound longitudinally with numerous fine silk sutures, taking in the outer two coats of the ureter and sac, and avoiding the mucous membrane. After the wound was sutured the appearance was more that of a funnel."

Cavendish-square, W.

THE OPERATIVE TREATMENT OF EYES EXHIBITING HIGH DEGREES OF MYOPIA.[1]

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A SLIGHT degree of myopia is little more than an inconvenience—no complaint may be made of it and the patient may be unaware that his vision is not perfect. A moderate amount is a distinct disadvantage. It may be associated with feelings of fulness and fatigue and with a tendency to congestion of the eyeball, but by rules for its proper management and the use of suitable lenses it can be satisfactorily remedied. In higher degrees of myopia we have to deal with a serious defect of vision and not infrequently with a damaged eyeball. I need not here do more than just allude to the numerous and obvious disabilities of extreme short-sight which render many incapable of following their occupations or of obtaining work. The highly educated or those engaged in fine work may be comparatively comfortable, but the ordinary handicraftsman or labourer is unfitted by the limit in his range of vision to earn a livelihood and becomes dependent on the charity of others. These patients complain of all kinds of subjective and objective symptoms due to irritation, hyperæmia, or degeneration of the tissues of the eyeball or to strain or defective action of the accommodative and extra-ocular muscles. There is a probability both that the myopia will be progressive in amount and that the eyeball will continue to deteriorate from degeneration of the vitreous, from stretching or tearing of the choroid, with inflammation or hæmorrhage, and from detachment of the retina. Moreover, under full correction by lenses the visual acuity of such eyes is more or less diminished, usually—as was pointed out by Donders—in a direct ratio with the degree of myopia present. Table I., compiled from my private case-books, well illustrates this

TABLE I.—*2630 Myopic Eyes.*

Degree of myopia in dioptres.	Number of eyes.		Vision.
−0·50	69		Vision (unless in specially complicated cases) with glasses was practically normal.
−0·75	63		
−1	108		
−1·25	98		
−1·50	105		
−1·75	67		
−2	149		
−2·25	76		
−2·50	114		
−2·75	57		
−3	142		Average vision with glasses $\frac{6}{6}$
−3·50	160		" " " $\frac{6}{6}$
−4	378		" " " $\frac{6}{9}$
−5	268		" " " $\frac{6}{12}$
−6	139		" " " $\frac{6}{18}$
−7	140		" " " $\frac{6}{24}$
−8	123		" " " $\frac{6}{36}$
−9	81		" " " $\frac{6}{36}$
−10	68	293	" " " $\frac{6}{36}$
−11 to −12	88		" " " $\frac{6}{36}$
−13 to −16	105		" " " $\frac{6}{36}$
−17 to −20	24		" " " $\frac{6}{36}$
Over 20	8		" " " $\frac{6}{36}$

point which is especially evident in the higher degrees. Further, the lenses which give fullest correction can rarely be worn with any sense of satisfaction. They act as prisms. They cause approximation of the nodal point to the retina, diminish the size of the retinal images, and suggest a proportionate increase in the distance from the objects seen. With full correction patients often complain of headache, giddiness, imperfect judgment as to size and distance, insecurity in walking, &c., and one is obliged to order weaker lenses and thus to sacrifice some of their already diminished visual acuity to comfort. In a higher proportion of cases than is sometimes thought good correction by concave lenses can be readily borne (Table III.).

TABLE II.—*Showing the Refraction of all the Eyes in Table I. with Myopia exceeding 9 D. in Patients under 17 years of age.*

−10 D. in 5 eyes.	−14 D. in 5 eyes.
−11 D. in 10 "	−16 D. in 2 "
−12 D. in 10 "	−20 D. in 2 "
−13 D. in 7 "	

TABLE III.—*Showing the Proportions of Full Correction borne in Myopia of 13 D. and over.*

Degree of myopia.	Fully corrected.	Under corrected.
−13 D.	26	11
−14 D.	12	9
−15 D.	8	9
−16 D.	20	10
−18 D.	7	9
−19 D.	—	2
−20 D.	2	4
−21 D.		1
−22 D.	—	3
−23 D.	—	1
−24 D.	—	
−27 D.	—	
	75	62

Young patients suffering from high myopia possess a strong power of accommodation and although their range

[14] Annals of Surgery, December, 1893. Case 5 in table.

[1] A paper read before a special meeting of the Ophthalmological Society on June 9th, 1899.

TABLE IV.—CASES OPERATED ON BY MR. F. R. CROSS.

No.	Age and sex.	Best vision before operation.	Vision after operation.	Operations.	Remarks.
1	21, F.	J.1 — 22/15	1/15, no lens, + 4·5 ⊃ + 1·5 cyl. J.1	January, 1898, D. 4th d. L. E., 4th m. C.	Since operation on the left there is good far vision; the left is quite comfortable, but the patient complains much of the right which she uses for reading.
2	25, M.	J.2 — 22/15	4/5 — 1·50 cyl. 1/4 + 0·50 ⊃ + 1 cyl. J.1	October, 1895, Extraction with iridectomy, 3rd m. C.	Can see much better at a distance and would like to have an operation on the other eye if he could be sure of reading as well afterwards.
3	26, M.	J.1 2/20 — 22/20	2/5 + 4 cyl. 1/4 + 10 ⊃ + 4 cyl. J.1	February, 1898, D. 6th d. L. E., 6th w. D., 12th w. D.	Has entropion and leucomata. The lens is not yet fully absorbed.
4	30, M.	J.1 — 22/15	1/5 — 0·50 ⊃ + 1.5 cyl. 1/3 + 5·5 ⊃ + 1·5 cyl. J.1	February, 1898, D. 7th d. L. E., 7th w. sclerotomy, 3rd m. C.	Tension +. Iritis.
5	23, M.	J.1 — 22/15	1/3 — 2 ⊃ — 1 cyl. 1/4 + 1 ⊃ + 1 cyl. J.1	March, 1896, D. 2nd d. L. E., 3rd m. C.	Before operation there were overstretched choroids with large posterior staphylomata, pigmentary degeneration at m. l., and atrophic streaks from disc to m. l. There was very marked congestive conjunctivitis. Improved by operation. The fundi were healthier.
6	23, M.	J.1 — 17/15	1/15, no lens, + 3 J.1	March, 1897, D. 5th d. L. E.	
7	27, M.	J.1 — 20/15	1/4, no lens, + 3·5 J.1	December, 1897, D. 4th d. L. E.	Much pleased with result of operation on the left. Says that he was almost blind before, although he succeeded in driving vans through the streets of Bristol, and had vision in right — 14/15, but had never worn glasses.
8	14, F.	J.1 — 20/15	2/3 + 4 1/2 + 9 J.1	April, 1897, D. 8th d. L. E.	Recent vision = 2/20. Requires capsulotomy. No complication. Much prefers the operated eye for work. Had internal strabismus corrected by tenotomy.
9	17, F.	J.1 — 18/15	2/3 + 4 1/2 + 9 J.1	February, 1897, D. (crucial), 7th d. L. E.	—
10	11, F.	J.1 — 18 ⊃ — 2 cyl. 2/3	1/5 + 2 cyl. imp. + 8 ⊃ + 2 cyl. J.1	March, 1897, D. 7th d. L. E., 24th m. C.	Septic iritis.
11	33, F.	J.1 — 18/15	2/3 + 4·5 1/2 + 9 J.1	June, 1898, D. (anterior part of lens), 4th d. L. E.	Since operation the choroid appears to be less overstretched and the fundus more velvety. Divergent strabismus of 35° unaffected by operation.
12	23, F.	J.1 — 16/15	1/15, no lens, + 6 J.1	March, 1897, D. 7th d. L. E., 28th d. L. E., for tension +	Ordered for reading right + 6, left — 11. Prefers right as print is larger. Has not binocular vision. Power of work has much improved by operation.
13	22, F.	J.1 — 16/15	1/15, no lens, + 5·5 J.1	October, 1898, D. 4th d. L. E., 8th d. L. E., 8th m. iridotomy	Iritis tension +.
14	23, F.	— 16/15	— 1 ⊃ + 5 cyl. 1/15	November, 1895, D. 4th d. L. E., 3½ years later C.	For the final results of this case I am indebted to Dr. Ensor who did the capsulotomy.
15	22, M.	J.1 — 16/15	2/3 + 3·5 1/2 + 8 J.1	February, 1899, D. 10th d. L. E., 26th d. L. E., 40th d. sclerotomy	Since operation the choroidal vessels are less spread and stretched and the fundus is more velvety-looking.
16	20, F.	J.1 7/20 — 16/20	—	February, 1899, D. 7th d. L.E., 3rd m. D.	Vision not noted. Requires capsulotomy.
17	19, F.	Not J.20 — 16/20	+ 8 ⊃ + 1 cyl. 1/4	February, 1899, D. 4th d. L. E., 8th d., iridectomy. Suction of lens	Other eye 1/4.
18	30, M.	J.1 — 16/15	1/15 + 1 cyl. 1/3 + 5·5 J.1	April, 1899, D. 3rd d. L. E.	Saw well on the morning after L. E., in which post capsule was torn without loss of vitreous.
19	21, M.	J.1 — 16/15	2/3 J.20, no lens	April, 1899, D. 7th d. L. E., 6th w. C.	Nystagmus in both eyes.
20	64, F.	1/20 — 15	1/15 J.6 — 1 1/2 + 1·5 J.1	1896, preliminary iridectomy followed by extraction	Sight is much improved.
21	64, F.	1/20 — 15/20	1/4 J.16, no lens, + 12 J.1	1896, preliminary iridectomy followed by extraction	
22	30, M.	— 14/15	1/5 + 1·5 ⊃ + 2·5 cyl. 1/3 + 5·5 ⊃ + 2·5 cyl. J.1	May, 1896, extraction with iridectomy two years later C.	Axial measurement of lens 7 mm. The patient much prefers to go without his glasses.
23	19, F.	J.4 — 14/20	Not tested	September, 1896, D. 11th d. Suction of lens	Result known to be very good, but the patient cannot be found for further testing.

24	8, M.	J.8? — $14\frac{6}{18}$	$\frac{6}{18}$ + 5 ⌒ + 1·5 cyl. $\frac{6}{12}$ + 12 ⊃ + 1·5 cyl. J.1	October, 1898, D. 7th d. L. E., 4th m. C.	At L. E. there was prolapse of the iris requiring iridectomy and accompanied by loss of vitreous. The child's mother is very pleased with the result, but further capsulotomy would improve.
25	19, M.	J.1 — $14\frac{6}{12}$	+ 3§ + 6 J.1	July, 1898, D. (anterior crucial) 9th d. L. E.	The patient is very pleased indeed with the result.
26	23, F.	J.1 — $14\frac{6}{12}$	+ 4 ⊃ + 2 cyl. $\frac{6}{12}$ + 8 ⊃ + 2 cyl. J.1	May, 1898, D. 10th d. L. E.	Sees very much better with the operated eye than previously. She is very grateful.
27	16, M.	J.$14\frac{6}{60}$ — $14\frac{6}{60}$	$\frac{6}{18}$ + 4·5§ + 9 J.1	July, 1898, D. 5th d. L. E., 5th m. C.	Had slight congenital cataract. Is very pleased with result.
28	16, M.	J.$1\frac{6}{60}$ — $10\frac{6}{18}$	§ + $6\frac{6}{60}$ + 14 J.8	February, 1899, D. 4th d. L. E.	Still considerable lens débris in left.
29	14, F.	J.$1\frac{6}{60}$ — 13 ⊃ — 2 cyl. $\frac{6}{12}$	$\frac{6}{18}$ + $3\frac{6}{12}$ + 7 J.1	October, 1898, D. only	Good clear pupil. Much pleased with result.
30	15, M.	J.$1\frac{6}{60}$ — $12\frac{6}{12}$	P at 2 m.	March, 1899, D. 8th d. L. E., 26th d. L. E.	Much débris, tension +. Requires later capsulotomy. Will see well.
31	11, F.	J.6 — $12\frac{6}{18}$	+ $5\frac{6}{18}$ + 11 J.8	February, 1899, D. 18th d. L. E., 3rd m. C.	Large pale disc with staphyloma posticum.
32	12, M.	— 9 ⊃ — 8 cyl. $\frac{6}{36}$	$\frac{6}{18}$ + 6 cyl. $\frac{6}{12}$	March, 1898, D. 7th d. L. E., 12th m. C.	Slight anterior synechia following L. E., which gives no inconvenience. The boy and his father are most emphatic as to improvement in sight.
33	16, F.	J.1 — $7\frac{6}{9}$	$\frac{6}{60}$ + 4·5 ⊃ + 4·5 cyl. $\frac{6}{12}$ + 12 ⊃ + 4·5 cyl. J.1	March, 1899, D. 8th d. L. E., 7th w. C.	The other eye is a comparatively good one. Vision = — 6§ J.1.
34	13, M.	J.1 — $7\frac{6}{12}$	+ 7 ⊃ + 1·5 cyl. § + 12 ⊃ + 1·5 cyl. J.1	March, 1899, D. only	—
35	10, F.	J.1 $\frac{6}{60}$ — 6 ⊃ — 3 cyl. $\frac{6}{12}$	$\frac{6}{60}$ + 5 ⊃ + 1·5 cyl. $\frac{6}{9}$ + 12 ⌒ + 1·5 cyl. J.1	March, 1899, D. 6th d. L. E., 6th w. D., 9th w. C.	Before operation the eye was large, the tension was full, the choroidal vessels were dilated and tortuous, and the eye was neuralgic. Iritis apparently septic followed L. E. and caused considerable anxiety for some days, but yielded to leeching.
36	25, F.	J.10§, ? lenses	$\frac{6}{18}$ J.18, ? lenses	May, 1898, D. 2nd d. L. E., 3rd m. C.	No record of lenses. Gone to Scotland. Very pleased with result.
37	20, F.	J.20$\frac{1}{60}$, lens no use	+ 3·5 cyl. $\frac{6}{12}$ + 5 ⊃ + 3·5 cyl. J.1	March, 1898, D. 5th d. L. E.	Vision of other eye — 12 ⊃ cyl. $\frac{6}{12}$, but since operation the patient much prefers the aphakic eye for distance. Very amblyopic before operation but no distinct fundus lesion was visible.
38	28, F.	J.8§ — $20\frac{6}{12}$	$\frac{6}{12}$ + 3 ⊃ + 3·5 cyl. J.14	May, 1897, D. (crucial, deep). No other operation	Amblyopic eye with leucomata. Later + 3·5 cyl. $\frac{6}{12}$. Preferred $\frac{6}{24}$ without lens to — 9 ⊃ — 2·50 cyl. § in other eye.
39	28, F.	Fingers	$\frac{6}{18}$ — 1·5§ J.4	April, 1895, lens extracted; 6th m. C., 14th m. C.	Iridectomy in each eye for hydrophthalmos, January, 1891.
40	26, F.	Fingers	$\frac{6}{60}$ J.20	February, 1897, D. 7th d. L. E.	Double retinal detachment, 1897.
41	20, F.	J.20 — $25\frac{6}{60}$	$\frac{6}{36}$ J.8	1896, D., L. E.	—
42	60, M.	J.$16\frac{1}{60}$, lens no use	$\frac{6}{60}$ + 2·75 $\frac{6}{60}$ J.19	February, 1896, iridectomy, 9th m. D. superficial, 11th m. D., 11th m. extraction, 21st m. C.	Severe choroidal damage with slight lenticular. Although results of testing are not satisfactory the patient says that his sight is a good deal improved.
43	60, M.	J.20$\frac{1}{60}$, lens no use	$\frac{6}{60}$ + 2·75 $\frac{6}{18}$ J.20	February, 1896, iridectomy, 2nd m. extraction, 4th m. C., 8th m. C., 21st m. C.	
44	41, F.	$1\frac{1}{60}$	$\frac{6}{60}$, no lens, + 4 J.16	January, 1896, iridectomy, 3rd m. extraction, 6th m. sclerotomy	Progressive malignant myopia. Vision was always defective; was much worse for six months prior to first attendance. Recurrent iritis after extraction in worse eye. Quite quiet now.
45	41, F.	$\frac{1}{36}$	$\frac{6}{60}$, no lens, J.16	October, 1896, iridectomy, 6th w. extraction, 15th w. D. and paracentesis	
46	21, M.	J.4$\frac{6}{60}$ — $11\frac{6}{18}$	Improved	March, 1896, D., 2nd m. D., 3rd m. C.	High myope with synchysis and choroiditis; the fields were considerably narrowed; the eye was unhealthy looking; he had probably inherited syphilis. No damage was done to the eye by operation, after which the patient saw better. The patient is dead.
47	10, F.	— $20\frac{1}{18}$	—	April, 1899, D., 14th d. L. E., 6th w. C.	Other eye vision + 0·75§ J.1. The patient is still under treatment.
48	21, F.	J.19 — 10, J.14. Retinoscopy — 20	$\frac{1}{18}$, no lens, J.16. Retinoscopy + 1	November, 1897, D. deep. 2nd d. L. E., 6th d. L. E.	Right vision + 3cyl. $\frac{6}{9}$ J.1. The left eye is amblyopic with divergent strabismus. The patient says that her left eye is better since operation and later the squint has somewhat improved.

D. = Discission. L. E. = Linear extraction. C. = Capsulotomy.

without help of lenses is limited to two or three inches they probably often use their full accommodation even when glasses are not worn in order to bring objects as close to the eye as possible for magnification. If they do so accommodate we surely ought to encourage them to wear such glasses as will help them to make use of their otherwise limited range of accommodation to its full extent without excessive convergence and try to make the physiological working of the eye approximate to that found in emmetropia. But many of our best observers take the very opposite view. Disregarding the fact that the accommodation of high myopia is often actively used though no glasses are worn they raise the objection that efforts to accommodate are encouraged by wearing lenses and that this must be prejudicial and tend to increase the myopia.

I have ventured to allude to some of the difficulties and dangers of high myopia in order to show cause why oculists have been justified in recommending somewhat heroic measures in order to remedy the faulty conditions present with the hope of improving the sight and making the eye more serviceable and possibly safer against progressive disease. Operative procedures of various kinds have from time to time been suggested in accordance with the views held as to the causation of this myopic defect. Lengthened axis of the eyeball is by far the most important factor. There may also be lenticular myopia. Moreover, in some of the most short-sighted young adults there is no evidence of thinning or stretching of the intra-ocular membranes. The optic nerve appears large and flat, the staphyloma is absent or little marked, and the fundus is red and velvety. These cases seem to be different from those of ordinary axial myopia, though probably the usual degenerative changes occur at a later stage, as I do not remember to have seen this condition in old people.

The following is a brief *résumé* of the operations which have been suggested for the relief of high myopia. Boerhaave in 1708 noticed that myopes after cataract extraction saw well without the usual convex lenses. The Abbé Desmonceaux in his book, "Traité des Maladies des Yeux et des Oreilles" (1776, Paris), said that he had frequently seen extraction of the crystalline lens done for myopia with good results, and adds that Wenzel had done the operation on his recommendation. No mention of the procedure, however, is found in Wenzel's work, "La Cataracte" (Paris, 1776), or in his "Manuel d'Oculistique" (1808). There is also no record of it in Janin's works, though Desmonceaux mentions him as a surgeon to whom he sent patients for operation. Corneal incision and drainage was suggested by Richter in 1790 for correction of the excessive curvature of the cornea which he thought to be a factor in the causation of the myopia. He mentions extraction or couching as a possible means of diminishing the refraction, but concludes that such interference would be justified only in the very worst cases of short sight and he makes no record of any case so treated. Desmoulins, Demours, and Benedict mention extraction of the lens as a possible means for curing short sight, but none of them seems to have practised it, while Beer, Andreæ, and Weller looked upon it as unjustifiable. Other methods, such as partial excision of the cornea (Galezowski), sclerotomy and iridectomy (Dransart), cyclotomy (Vose Solomon), tenotomy of one or more recti or obliques (Guerin, Phillips, &c.), have been resorted to at various times in accordance with the pathological theories held by the various surgeons, but the only operative measures in the present day deal with the crystalline lens. Sir W. Adams is mentioned in Mackenzie's treatise (1830) as having materially improved the short sight dependent on conical cornea by division of the lens, the patient having good sight after operation without glasses. In 1839 Radius advised discission (which had been introduced by Henkel in 1770) as a means of getting rid of the crystalline lens in myopia. We have no evidence apart from the statement of Desmonceaux that any operation was actually performed on the lens for myopia until the Heidelberg Congress in 1858, when Adolf Weber read a paper recommending its extraction and quoted cases in which he had obtained good results by this method. Mooren during the debate showed a special knife which he recommended for the purpose of extraction in these cases. The proposal was condemned by von Graefe who said that besides its great risks the operation could not cure the choroidal disease which he held to be the primary cause of the short sight, and his strenuous opposition prevented the operation from gaining adherents, though Weber probably continued to practise it, and a case of Mooren's is reported in which the eye was lost from iridocyclitis. In 1866 Donders's work appeared, "On Accommodation and Refraction of the Eye." He wrote strongly against any operative interference as a cure for short sight, particularly against removal of the lens, "which could not improve the staphyloma posticum, but would, on the other hand, sacrifice the accommodation."

The credit of reopening the question and of putting the operation on its present basis seems to be undoubtedly due to V. Fukala who while a pupil of Arlt about 1870 suggested that the lens should be removed from these highly myopic eyes. Arlt, however, whose views coincided with those of von Graefe and Donders, opposed the idea. In 1876 Mauthner expressed the opinion that a high-grade myope would be incomparably better off both for far and near sight if the lens were not in his eye, and wrote that if he knew of any extraction operation as safe as an iridectomy he would advise it. On Nov. 8th, 1889, Fukala read a communication before the K. K. Gesellschaft der Aerzte in Vienna on Extraction of the Lens for High Degrees of Myopia, giving the result of 16 operations the first of which was performed on April 3rd, 1887, and showed two of his patients. He published in von Graefe's Archives for 1890 (Band xxxvi.) a fuller article on the subject. Fukala's first operation was done in 1887. He advocated repeated discissions (five, nine, and 15) in young myopes all under 24 years of age for purposes of improved vision. On May 7th, 1890, Vacher of Orleans made a communication to the Société Française d'Ophtalmologie recommending extraction of the lens in older patients suffering from high myopia for prophylactic reasons in order to lessen the tendency to detachment and other degenerative changes associated with the disorder, and described two operations, the first done on April 17th, 1889; and in 1891 he published a paper entitled, "Traitement de la Myopie Progressive Chorioidienne et Prophylaxie du Décollement de la Rétine par l'Extraction du Crystallin Transparent."[2] His first results were published without any knowledge of Fukala's work. Bouchard in 1892 reported Vacher's cases and some done by Abadie. He recommended the operation but advocated cautious watching of the final results. Soon after Fukala and Vacher had published their papers Pflüger (at the Stuttgart Congress in 1892) and Schweigger[3] reported 15 cases with good results. Thier,[4] von Schröder,[5] von Hippel[6] and Sattler have also published papers. The last-named[7] has recently recommended a new method for rapid removal of the crystalline lens which he says was first suggested to him by Adolf Weber of Darmstadt and which has also been practised with slight modifications by C. Hess. This operation consists in making with a curved keratome an incision from six to eight millimetres long from one and a half to two millimetres from the corneal margin, then freely tearing the anterior capsule and lens with a sharp hook, and evacuating as much of the lens substance as possible by pressure.

In this country Fergus and Meighan,[8] Wray, Lang, Lawford, Maxwell, Rayner Batten, Lindsay Johnson, and others have published cases; and as leading contributions to the literature of the subject must be specially mentioned Fukala's book, "Heilung Höchstgradiger Kurzsichtigkeit," Leipsic, 1896 (Operative Treatment of High Myopia); Otto's paper, "Beobachtungen über Hochgradige Kurzsichtigkeit," in von Graefe's Archiv (1897, vol. xliii.); and W. Stood, "Zur Myopie-Operationen," in *Wiener Medicinische Presse*, 1898.

Fukala claims the following advantages in removing the crystalline lens for high myopia. It gives distinctness of vision for distance and improves visual acuity. It enables patients to work at the distance of ordinary useful sight without glasses or with glasses easily borne, and improves the position of the head and body. It enlarges the retinal images and allows of more light falling on the retina. It simplifies the optical apparatus of the eye by removal of the lenticular reflexes and by the avoidance or weakening of spectacle lenses which are otherwise needed. It removes the strain of accommodation and its injurious

[2] Annales d'Oculistique, tome 106.
[3] Deutsche Medicinische Wochenschrift, 1893.
[4] Deutsche Medicinische Wochenschrift, 1893; Wiener Klinische Wochenschrift, 1894.
[5] Petersburger Medicinische Wochenschrift, 1894.
[6] Transactions of the Ophthalmological Society of Heidelberg, 1895.
[7] Ibid., 1898.
[8] Glasgow Medical Journal, 1894.

influence and lessens the tendency to further development of the myopia. It improves the condition of nearly all the intra-ocular structures and tends to develop the functions of the retina.

We are all now agreed that removal of the lens is the only operative procedure likely to be of service. It deals with axial myopia and also with modifications in the size and position of the lens. The subjects for operation are usually young and suitable for discission with subsequent linear extraction. In older patients or where the eye conditions are not satisfactory a preliminary iridectomy followed by slight discission of the lens before extraction would be preferable. Some authorities advocate repeated small discissions (even to the number of 15) and the avoidance of any linear extraction at all; others recommend a very free cutting of the lens and capsule and for this purpose use a Sichel or Graefe knife in preference to a needle. A linear extraction is generally advisable, excepting in the eyes of children, within a few days of the discission, before high tension is present, or at any rate directly it is definitely manifest. I think discission, as a rule, is best limited to the anterior portion of the capsule, though many eyes do well after deep crucial division of the lens. The zonule may form an important part in the support of the eyeball and perhaps should not be too freely torn. When the posterior part of the capsule is freely divided the lens may swell chiefly towards the vitreous and show but little change towards the pupil. The iris is pressed forward and the anterior chamber is narrowed, while the position of the swollen lens behind the iris renders it difficult to reach it through a corneal puncture or to relieve the increased tension which it is causing. My own experience has been that discission of the lens which is so very satisfactory an operation in children should in young (and still more in older) adults be done with caution; it often causes irritation and congestion of the eyeball and is not infrequently followed by troublesome tension, not always relieved by one or even more linear extractions. For this reason I have several times preferred primary simple extraction to needling in cases of slight zonular cataract in grown-up patients and have also removed the transparent lens after iridectomy.

There may be special risks attending discission in highly myopic eyes, which are often delicate and predisposed to complications. In some of them operations would appear to be distinctly contra-indicated; particularly is this the case if well-marked synchysis or a faulty vitreous is present as predisposing to detachment, or if there is any tendency to intra-ocular hæmorrhage, softening of the eyeball, or some kinds of impairment in the field of vision. Choroiditis or degenerative changes in the choroid of moderate degree, even if near the macula, unless the appearances suggest a tendency to hæmorrhage, do not absolutely contra-indicate the operation. Even if central vision is impaired the prognosis, though grave, is by no means hopeless. (See Table IV., Nos. 17, 36, 37, and 41.)

Each case must be carefully selected on its merits. During the linear extraction it is necessary to guard against complications and particularly to avoid prolapse of the vitreous and of the iris. Where these have occurred healing has been slow and not satisfactory and in many cases inflammation has taken place. Prolapse of the vitreous is more likely to follow after a free laceration of the posterior capsule. The puncture of the anterior chamber should be small and at the periphery of the cornea to avoid iritic prolapse and anterior synechia. My experience agrees with that of many others as to the increased risk of septic inflammation after these accidents. The importance of asepsis is obvious. Even where good operations have been done there is a risk of iritis, irido-choroiditis, irido-cyclitis of various types and degrees, and of intra-ocular hæmorrhage. Recovery with good sight may follow severe and long-continued inflammations, but the eye is probably somewhat weakened by them and may be liable to recurrences or to degeneration.

Detachment of the retina has no doubt frequently taken place after operation for high myopia, but the opinion is gaining ground that the danger of its occurrence as a direct result of the operation has been overstated. My judgment would be that operation is much more likely to cause than to cure detached retina, which is a complication particularly associated with bad short sight. Detachment occasionally follows extraction for ordinary cataract, particularly where the vitreous has been diseased or damaged. The direct influence that high myopia has in predisposing to detached retina may have been overstated; the latter is by no means only found in myopic eyes. A faulty vitreous is probably the essential factor in causation and this may result from degenerative changes and from old age quite irrespective of short sight.[9] The subjects for operation in high myopia are the young, whose retinæ are very rarely found detached and in whom, I think, detachment is not likely to take place as a result of the operation, particularly if we are careful to avoid interference where we find a faulty vitreous or other conditions likely to be detrimental, and especially if loss of vitreous is avoided at the extraction of the lens. In some of the cases where detachment was followed late after the operation the complication might have taken place without operative interference.

Some years ago in order to test the value of the operation for myopia I selected eyes in which the sight was definitely imperfect. I quite realised that moderately affected young eyes without severe intra-ocular complication were certain to give the best results, but I hesitated to submit eyes that had useful sight to interference that might make matters worse. I gave details in 1896[10] of my first nine cases, in six of which before operation a visual acuity of $\frac{1}{5}$ could not be obtained with any lens. Brilliant results could not be expected from such a group, but they were more than satisfactory, and from that time I have continued to operate where I considered it desirable.

The estimation of the amount of myopia present in my cases is not scientifically accurate. The degree is based upon the best correcting lens or upon retinoscopy without any special accuracy of distance of the test lens from the nodal point. Estimation by the direct method is difficult in high degrees of myopia. It would be better to take the far point at which J. 1 is read without lenses or more accurately to calculate the far point objectively by Schweigger's electrical ophthalmoscope,[11] or subjectively by Otto's apparatus.[12] The measurements are, however, for practical purposes correct. I have operated from 25 D. (Case 41) to 7 D. (three cases, Nos. 33, 34, and 35), the latter in very young patients, where I assumed that the myopia was progressive and that there was no advantage in postponing the operation. They are recent cases, but the results are quite satisfactory to date. The optical conditions are improved and + lenses

TABLE V.—*Theoretical Calculations as to Altered Refractions after Removal of Lens in Myopia of Different Degrees, Compared with the Averages actually found in Three Groups of Cases.*

Refraction before operation.	Calculated refraction after operation.		Average refraction actually found after operation.		
	Eperon.	Otto.	I.	II.	III.
−10 D.	+ 4	+ 5·8	—	+ 4·65	+ 5
−11 D.	+ 3·64	+ 5·22	—	+ 5·1	+ 4·25
−12 D.	+ 3·2	+ 4·76	+ 5	+ 4·2	+ 3·80
−13 D.	+ 2·67	+ 4·05	+ 3	+ 2·75	+ 2·80
−14 D.	+ 2·3	+ 3·45	+ 4·75	+ 3·4	+ 3
−15 D.	+ 2	+ 2·87	—	+ 3·5	+ 2·80
−16 D.	+ 1·5	+ 2·28	+ 3	+ 2·47	+ 1·70
−17 D.	+ 1·23	+ 1·64	0*	—	+ 1·50
−18 D.	+ 0·80	+ 1·09	+ 3·5	+ 2·30	+ 1·87
−19 D.	+ 0·36	+ 0·5	—	+ 1·25	—
−20 D.	+ 0·10	+ 0·08	+ 2	+ 0·30	+ 2.25
−22 D.	− 0·60	− 1·28	− 0·20	—	− 1

* Emmetropia only one case.

— 22 D. after operation requires 0 or very slight + or −.

In Tables V. and VI., Group I. consists of my own cases. All eyes in which the testing appeared to be unreliable or incomplete have been excluded.

are better worn than −. There would appear to be no upward limit; as a rule we should rarely operate under − 15 D., unless in children, then at 12 D. or so, but there can be no absolute rule. Table V. has been compiled to show the refraction which may be expected to result after removal of the lens in myopia of various degrees. A lens −7 before the operation was replaced by nearly + 7 after it. Thier

[9] Brit. Med. Jour., vol. ii., 1896, p. 634.
[10] Ibid.
[11] Transactions of the Ophthalmological Society, Heidelberg, 1891.
[12] Archiv von Graefe, vol. xliii., p. 327.

considered that a myopic eye is better off after operation if it then requires for correction a + lens which is not higher than the − lens needed for the original myopia. Schweigger thought that an eye should not be operated on if a higher + lens than 4 is likely to be required afterwards.

I have operated at all ages. 10 operations were performed on patients between the ages of eight and 15 years—namely, one at eight years, two at 10 years, two at 11 years, one at 12 years, one at 13 years, two at 14 years, and one at 15 years; in 32 operations the patients were between the ages of 16 and 33 years; and both eyes were operated on in patients aged 41 years, 60 years, and 64 years respectively. Children are rarely very myopic, but if the defect is obviously progressive the operation should be undertaken, particularly as simple discission will probably suffice if it is done sufficiently early in life. Table II., however, shows

TABLE VI.—*Showing the Average Improvement in Visual Acuity after Removal of Lens in Four Groups of Cases, that Before Operation being assumed as = 1.*

Refraction before operation.	I.	II.	III.	IV.
−10 D.	—	1·37	1·13	3
−11 D.	—	1·4	1·2	—
−12 D.	1	1·38	1·25	—
−13 D.	1·5	1·25	1·25	4·5
−14 D.	1·75	1·625	1·28	3
−15 D.	—	1·76	1·225	3
−16 D.	1·8	1·45	1·26	3·5
−17 D.	1·1	—	1·175	—
−18 D.	2·4	2·05	1·175	2·53
−19 D.	—	2	1·4	—
−20 D.	3	2·18	—	4
−22 D.	1·8	—	1	2

Group IV. shows the best average results that I can find claimed by any operator, but the improvement is said to reach seven- or even ten-fold in individual cases; in these probably the vision before operation was very defective or unreliable.

that a considerable number of young patients have myopia of 10 D. and upwards. The cases most likely to apply for help are young adults who are disabled from getting situations either because they wear spectacles or cannot satisfactorily do their work with or without them. I have invariably operated on the patient's worst eye. I consider that the rule should be to operate on one eye only and that the best eye should be left untouched for purposes of reading. If the myopia before operation is of such degree that the aphakic eyes are likely to show any myopia or a very slight degree of hypermetropia after operation it might be well to operate on both. In most cases a convex lens of high power is necessary for reading small print after the operation and patients prefer to use the eye that has not been interfered with. They use the operated eye for distant sight and the other for reading, and thus altogether get rid of spectacles which they dislike to use for either purpose. The period of 10 years or so during which the operation has been under trial is not long enough for us fully to calculate the risk of complications that may follow it, and it seems to be seldom justifiable to risk both eyes. I should be very cautious about operating on a patient with only one eye—it might be justifiable, but it is rarely so. Most cases of severe short sight would seem to be suitable for operation. Well-to-do people can manage comparatively well with high short sight, but in the case of servants and workmen it may mean want of employment. I append the results of 48 cases in which I do not regret interference in a single one (Table IV.); the list may not be quite complete in number, but certainly no unfavourable case has been excluded, for such were most carefully watched and noted. Those in which any definite complications occurred are specially mentioned; a few had very severe inflammation but ultimately recovered with good vision. There is plenty of positive evidence that we have done good and very little that we are doing harm. There can be no doubt as to the improvement in vision and with it in the general aspect of the patient, who loses his nervous, dreamy manner in one of confidence and interest in what is around him.

Evidence as to the exact amount of improvement in distant vision is somewhat conflicting. A comparison drawn between the best vision of the patient with glasses before operation and his best corrected vision after operation is said by Fukala, von Hippel, and others often to show an increase of four-, six-, or even ten-fold. Sattler finds the improvement much less marked and usually not greater than would be accounted for by the increased size of the retinal images. In Table VI. we have shown some statistical evidence upon this point. Allowing for the difficulty the patient finds in wearing the best correcting lenses and his distinct preference for wearing none at all the gain to him would appear to be much greater than that expressed in the figures. As a rule we do not gain improvement in vision for reading, but we certainly do so in a few instances. Thier has quoted a series of cases in which myopic eyes which had been rendered aphakic by operation seemed to possess a very considerable range for reading. Having corrected the eyes with convex lenses which enabled each to see comfortably moderate-sized print, such as Jaeger 6 or 8, he found there existed a range of vision which varied from 21 centimetres to 63 centimetres, the nearest point at which the print was read in any case in the series being 7 centimetres and the furthest 75, and Fukala says that he can corroborate these observations. The explanation of this phenomenon probably depends on the fact that at a considerable distance both within and without the point of clearest vision the image is less indistinct than would be the case in the eye of normal length on account of the diffusion circles being smaller and less marked, while in addition myopes are accustomed to see with considerable blurring of the retinal images. The power of real accommodation in aphakic eyes which has been attributed to pressure of the external muscles either increasing the corneal curvature or lengthening the antero-posterior axis of the eyeball is probably very slight and of no real importance.

NOTE ON SOME OF THE SURGICAL SEQUELÆ OF INFLUENZA.

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EVERYONE must have noticed among the manifold consequences of an attack of influenza the tendency to rouse into activity latent or quiescent disease. It reveals the vulnerable or weak parts in the individual attacked and thus gives rise to a great variety of sequelæ. Of those which come under the notice of the surgeon the most frequently seen are inflammation and suppuration of the lymphatic glands; inflammation of the mucous membrane of the throat and of the nasal, maxillary, and frontal sinuses; suppuration of the middle-ear; synovitis; boils; neuralgias; and residual abscesses.

In children with susceptible lymphatic glands acute suppuration may be set up in glands which have long been in a condition of chronic and indolent enlargement, or there may be swelling and tenderness of a number of glands in different parts of the body, subsiding after a few days without suppuration but perhaps leaving two or three glands chronically enlarged. In adults, glands which have long before been the seat of suppuration may become swollen and tender with a good deal of œdema of the surrounding connective tissue, but suppuration is less common.

The pharyngitis accompanying and following influenza is characterised by general redness and vascularity of the mucous membrane with a good deal of submucous swelling. This condition frequently spreads to the larynx, causing troublesome cough. Sometimes, though less often, it affects the maxillary and frontal sinuses and may lead to suppuration within these cavities.

Persistent neuralgic pain about the upper jaw and neighbouring parts occurring after an attack of influenza should lead to a careful examination of the antrum, for the pain may be found to depend upon the presence of pus in that cavity and will be cured, not by quinine, but by evacuation and drainage. The rhinitis is of the same character—there is redness of the nasal membrane, submucous swelling, and much muco-purulent secretion. This condition is often very persistent and will recur with each attack of influenza even

when there is complete subsidence in the intervals. The laryngitis is usually less severe and more transient.

Suppuration of the middle-ear has been very common in the late epidemics and frequently occurs early in the attack, but in some instances it follows the chronic throat affection and arises during convalescence. The suppuration may, of course, spread to the mastoid cells or lead to some of the more serious complications of this condition, such as cerebral abscess or pyæmia.

If the victim of influenza has an arthritic tendency synovitis is likely to occur. In the cases which I have seen the joint has usually become swollen after the subsidence of the initial fever. In some the temperature has risen slightly coincidently with the synovial effusion and the joint has been painful; in others there has been no rise of temperature and very little pain, though the effusion has often been considerable and persistent. Occasionally, but happily rarely, suppuration occurs. This possibility should, however, be borne in mind in considering the advisability of operations upon joints during an epidemic of influenza.

Very notable is the tendency of influenza to provoke into activity quiescent tuberculous or other chronic forms of joint disease. It frequently starts again the whole process which had seemed to have come to a happy end. I have recently seen a child who after years of treatment had apparently just recovered satisfactorily from an extremely chronic form of hip disease, and in whom disease of the knee of a precisely similar character came on while the patient was in bed in consequence of an attack of influenza which prevailed throughout the house. This was the more striking because the child was in good health and showed no sign of tubercle, and, being in bed, was of course not even using the limb. So far as my experience goes the joints of the lower extremity are the most commonly attacked, especially the knee, and next in order come the elbow and wrist.

A succession of boils may follow influenza in those liable to this complaint. Whether accidentally or not I do not know, but I have seen several instances in which the boils have been chiefly upon the face.

Various forms of neuralgia have been very prevalent among the sequelæ of influenza. Facial neuralgia may, as I have pointed out, depend upon the presence of pus in the antrum or neighbouring sinuses or may, of course, be determined by the presence of a diseased tooth. But I have also seen severe cases of occipital, sciatic, and circumflex neuralgia after influenza for which no local cause could be discovered.

Residual inflammatory products may be aroused into fresh activity by influenza, as may be especially seen in the case of ischio-rectal abscess.

But one of the most remarkable effects of influenza and one to which I wish especially to direct attention is the active recrudescence of latent or quiescent syphilis. In this, as in some other points, influenza curiously resembles malarial fever, which has a notable power of bringing out some of the later symptoms of syphilis and making manifest any remaining syphilitic taint. A striking instance of the lighting up of smouldering syphilis by influenza was seen in a patient under my care in St. George's Hospital in 1895. A woman, 42 years of age, had been infected by her husband 18 years previously. She was an intelligent person, was aware of the nature of the disease, and gave a very clear history of her symptoms. She had a primary chancre on the vulva, followed by well-marked secondary symptoms lasting for a year and a half. During this time she was under constant treatment. For the next year she remained free from symptoms, but during the succeeding year she again suffered from ulceration of the throat and skin, for which she was treated. After this she remained well, or at least could remember no noticeable symptoms, until a recent attack of influenza, during which rupial bullæ appeared over the body and developed into numerous and extensive ulcers. She was now admitted into the hospital with rupial bullæ and ulcers in various stages; at the same time her hair fell off so that she became almost entirely bald, and her complexion underwent a very noticeable change from the pallor of anæmia to a dull bistre tint. Then ulceration of the soft palate occurred leading to an extensive perforation; a large periosteal node formed over the back of the radius and subsequently she had ulcers between the toes. Under a mild course of calomel baths, iodides, and tonics, together with a generous diet, she made a slow but satisfactory recovery, the change in the complexion as her general condition improved being most striking. The recurrence in this case was of unusual severity, but in others which I have observed there has seemed to be an especial tendency to the occurrence of ulcerative conditions.

In addition to whatever local treatment may be needed by these various sequelæ of influenza, tonics, fresh air, sunshine, and a generous diet will be found important aids to recovery. The tendency to ulceration and to the breaking down and necrosis of inflammatory products are indications of lowered vitality and should be borne in mind in reference to the treatment. Evidence of suppuration, especially in glands and in the maxillary sinuses, should be carefully watched for, so that matter may be given an exit at the earliest possible opportunity. In the cases of recrudescent syphilis in which rupial ulcers or the breaking down of gummata of the skin occur the calomel vapour-bath will be found most efficacious. That a patient has recently suffered from influenza is certainly no reason for abstaining from the administration of mercury, which in the cases alluded to is always of the greatest benefit. Indeed, I am convinced that however remote the original infection may have been nearly every case of syphilis in which fresh symptoms are developed will benefit by the administration of mercury; and it seems to me that the calomel bath has fallen into undeserved neglect. In several instances the good effect of the calomel bath appeared to be materially aided by the administration of the freshly made decoction of sarsaparilla.

Savile-row, W.

A CASE OF STRÜMPELL'S PARALYSIS (POLIO-ENCEPHALITIS) COMBINED WITH INFANTILE PARALYSIS.

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THE point of interest in the following case is that the lesion was a double one and involved the neurons of both the upper and lower motor segments.

The patient was a girl, aged 11 years, who had been paralysed for six years. Her mother said that the girl came home from school complaining of severe pain in the head over the left temporal region. She had a convulsion and afterwards the face was drawn to the left side and there was loss of speech with paralysis of the right arm and the leg. The facial paralysis gradually got better and the power of speech returned in about 14 months from the onset of the disease. The child at the time of the seizure was in apparently good health and there was no history of any infectious disease or of rheumatism or chorea. There were no signs of congenital syphilis. She attended school but learned very slowly and was very forgetful. On admission to the Bristol Hospital for Sick Children under the care of Dr. Leonard Lees, to whom I am indebted for permission to publish this case, her right arm was found to be in a spastic condition, with the elbow and wrist more or less flexed and the fingers flexed or extended and rigid, all movements being slow, incomplete, and usually tremulous. The right arm measured a quarter of an inch more than the left, the increase probably being due to the constant choreiform movements. The electrical reactions were normal. The heart and lungs were healthy. In the lower limbs the right leg measured one inch less than the left. There was pes cavus for which tenotomy was performed in 1898 at the Bristol General Hospital. The electrical reactions of the flexors seemed normal, but the peronei gave the reaction of degeneration. Knee-jerks were present. It was evident that the lesion was one of the upper motor segment. The grounds on which I based this conclusion were (1) that the lesion was a hemiplegia, (2) that speech and the facial muscles were affected at the onset, (3) that there was no reaction of degeneration in the upper limb, and (4) that the reflexes were not lost. One point against the whole lesion being of that nature is the fact that the leg had wasted and the reaction of degeneration could be got in some of the muscles. It was therefore certain that the lesion was double—i.e., that there was a lower segment lesion (anterior polio-myelitis) as well as an upper segment lesion, which might be an associated polio-encephalitis.

Hemiplegia in children may be due: (1) to porencephaly, or congenital deficiency of cortex or subcortical region; (2) to injury, instrumental or otherwise, at birth; (3) to

hæmorrhage during paroxysms of whooping-cough or secondary to thrombosis of a cerebral vein or sinus following scarlet fever, typhoid fever, diphtheria, &c.; and (4) to embolism of the middle cerebral artery due to heart disease, especially mitral stenosis. It may be septic from ulcerative endocarditis and the septic emboli may cause miliary aneurysms. The above causes are negatived by the history of this case. It may also be due (5) to polio-encephalitis—destruction of upper segment motor neurons, just as the lower segment neurons are destroyed in infantile paralysis. It would appear that the two lesions are the result of the same poison—a poison which more commonly affects the lower motor neurons (polio-myelitis) but sometimes affects the neurons of the upper motor segment (polio-encephalitis). The disease is often epidemic. 126 cases have been reported by Dr. Caverley,[1] in which the characteristic symptom was paralysis in young children. The disease was attributed to insanitary surroundings. The mother in the case reported above said that an elder brother of this child had had a similar attack 17 years previously, but had recovered. Dr. Pasteur[2] also describes some cases. Dr. Parkes Weber[3] showed a case before the Clinical Society of London which he thought was a case of acute polio-encephalitis of Strümpell and acute polio-myelitis. The diagnosis of toxic poisoning is arrived at by eliminating all other possible causes of sudden hemiplegia, preceded or attended by a series of convulsions, and more or less prolonged unconsciousness. In this the coexistence of infantile paralysis points most definitely to the spinal and cerebral lesion being caused by the same poison. It is probable that if the electrical reactions were taken more carefully the coexistence of the two lesions would be found to be more frequent than is commonly supposed.

Clifton, Bristol.

THREE CASES OF CHRONIC MEDIASTINITIS.

BY WM. CECIL BOSANQUET, M.A., M.D. OXON., M.R.C.P. LOND.,

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THE paper by Dr. Whipham which recently appeared in THE LANCET[4] on the subject of chronic mediastinitis showed how small a total number of cases of this affection are recorded in medical literature. It may, therefore, be not without interest to set forth the notes of three cases of the disease which have recently occurred in the wards of Charing-cross Hospital and which I have had the opportunity of observing. My thanks are due to the physicians under whose charge the patients were for permission to record these cases.

CASE 1.—A boy, aged eight years, was admitted under the care of Dr. Abercrombie on Oct. 10th, 1892, suffering from dyspnœa and distension of the abdomen. There was no history of rheumatism. The patient had had whooping cough at the age of seven years, one year before admission. In May, 1892, he had been treated for some chest trouble, which was called "consumption," and had been in bed from that time until he came into the hospital. Since July there had been swelling of the abdomen and the liver had rapidly increased in size. On admission the boy was somewhat wasted and he appeared to be in distress. There was dyspnœa, the chest moving badly in respiration, as the result, apparently, of emphysema. There were signs of bronchitis over both lungs and the heart sounds were weak, accompanied by a (? systolic) murmur which subsequently disappeared and was probably pericardial in origin. The appetite was good, but slight pain was complained of after meals. The abdomen was prominent and the liver was much enlarged, reaching below the umbilicus, smooth, firm, and tender on pressure. This enlargement had caused a suspicion of hydatid of the liver before admission, and on Nov. 9th an exploratory laparotomy was performed by Mr. Stanley Boyd. The liver appeared to be congested and it bled freely on puncture, but nothing further was found. The patient recovered satisfactorily from the operation. The appearance of the liver made the diagnosis of mediastinitis, which had been previously canvassed, practically certain. On Oct. 25th there were found dulness on percussion and tubular breathing at the lower part of the left lung. On Dec. 7th retention of urine occurred, but did not persist; œdema of the legs was also noticed at this time, but the boy's condition remained otherwise stationary. The œdema varied from day to day and the patient was troubled with cough, bringing up a small quantity of expectoration, which was at times streaked with blood. In March the cough became more troublesome and attacks of dyspnœa and cyanosis occurred. Paracentesis abdominis was performed on Dec. 14th and 25 ounces of fluid were withdrawn to the considerable relief of the patient. Gradual improvement then ensued and the boy left the hospital on May 13th, 1893. At this time the cardiac dulness extended upwards to the level of the second rib cartilage on the midsternal line; to the right it extended one inch beyond the border of the sternum and to the left two inches outside the nipple-line. The apex-beat could not be felt. In the left axilla there was dulness up to the sixth rib and in the back there was a triangular area of dulness the base of which was formed by the lower limit of the pleural cavities, extending about three inches on either side of the mid-line, while the apex reached to the third dorsal spine. There was some œdema still present in the legs. The urine throughout showed nothing abnormal. The boy was readmitted on June 13th with the same symptoms as at first and again he improved sufficiently to be sent out on August 30th. A third visit to the hospital lasted from Oct. 11th, 1893, to April 14th, 1894. The condition of the patient was practically the same. He suffered on this occasion for some days from swelling of the sublingual gland, which, however, subsided without active treatment. On May 22nd he was readmitted for the last time. Œdema was now general and it involved the face and arms. There were cyanosis and orthopnœa. Pleural effusion was present at the bases of both lungs and râles were audible all over the rest of the chest. Slight improvement occurred at first after admission but was not maintained and the boy died on Oct. 27th.

At the necropsy, which was made by the late Dr. Arkle, advanced fibrosis of the mediastinum was found, with dense adhesions involving the pericardium and anterior reflexions of the pleuræ which were firmly attached to the back of the sternum and neighbouring rib cartilages. There was universal adhesion between the visceral and parietal layers of the pericardium. The heart was small and its walls were thin and fibrous in consistency. The lungs were semi-solid, tough, and œdematous. In the left pleural cavity there was a collection of fluid, about 10 ounces in amount. A small caseating gland was found in the neck and another at the root of the left lung, but there were no tubercles anywhere. The liver weighed 31½ ounces and was tough, not typically "nutmeg" in appearance, but fatty in places. The spleen was large and tough and the kidneys were tough and congested; the capsules stripped off readily.

CASE 2.—A boy, aged 15 years, was admitted under the care of Dr. Abercrombie on Jan. 19th, 1897, for shortness of breath and swelling of the legs. The only illness which he had previously suffered from was measles, but the exact date of this was not known. In March, 1896, he had been troubled by cough and "dropsy" which got better but returned a few weeks later, and ever since that time he had complained of shortness of breath and dropsy coming on at intervals. These symptoms had increased three weeks before admission and the dyspnœa had become considerable. When first seen he was a fairly nourished boy who looked much less than his real age. There was considerable shortness of breath, so that he had to be propped up on pillows. The chest was emphysematous and the cardiac dulness was diminished; there were signs of bronchitis in the lungs. The abdomen was much distended and the liver reached to the umbilicus. The legs were œdematous. The patient's temperature on admission was 99° F. and it was practically normal throughout the illness. The urine was of specific gravity 1014 and contained no albumin; on one occasion it appeared to reduce Fehling's solution. A week after admission pleural effusion was noted on the right side and a friction-sound was audible in the axilla. The general condition of the boy gradually improved and he went to the convalescent home on June 8th. He was readmitted on June 30th in practically the same condition as

[1] Journal of the American Medical Association, 1896, vol. xxvi.
[2] Brit. Med. Jour., 1897, vol. i., p. 851.
[3] THE LANCET, March 4th, 1899, p. 591.
[4] THE LANCET, April 1st and 8th, 1899.

when first admitted. The cardiac dulness was now increased, extending upwards to the level of the third rib and to the left two inches beyond the nipple line. There was also some albumin in the urine. The signs of œdema gradually increased, the right side of the chest became full of fluid, and the subsequent history of the case is merely that of repeated tapping of the legs, abdomen, and pleura. Paracentesis abdominis was performed 28 times in all at gradually diminishing intervals and the chest was aspirated on four occasions. On March 9th, 1898, the boy was delirious, talking nonsense and praying, but this condition disappeared when the fluid which had accumulated in the pleura was withdrawn. Death occurred on May 15th.

Dr. W. Hunter found at the necropsy that the right pleural cavity contained several pints of serous effusion and that the pleura was thickened. The right lung was collapsed in two places; it was attached by firm fibrous bands to the thoracic wall. The left pleural cavity was obliterated by old adhesions, as much as one-eighth of an inch in thickness in places; the adhesions at the apex were more recent than those lower down. The left lung was firmly attached to the diaphragm and it was in a condition of chronic congestion with "hypostatic pneumonia" of the lower lobe. The pericardial cavity was obliterated and the pericardium was adherent to the anterior border of the left lung and to the sternum, very strong bands of fibrous tissue running downwards and forwards from the upper part of the heart to be attached nearly at the level of the fourth rib cartilage. The heart was small for the boy's age, but the walls were not so thin or so fibrous in texture as were those in Case 1. The liver weighed 2 lb. 6 oz.; its surface was "irregularly contracted but not nodular" and its substance was congested and showed considerable increase of fibrous tissue. The kidneys were firm and congested, each weighing six ounces. The spleen weighed five ounces; its condition otherwise is not recorded.

CASE 3.—A boy, aged six years, was admitted under the care of Dr. Mitchell Bruce on Oct. 13th, 1898, for swelling of the abdomen and legs. Two years previously he had had chicken-pox and whooping-cough and since the latter illness he had always been "delicate." Two months before admission he had suffered from diarrhœa and sickness with much abdominal pain. These symptoms diminished, but three weeks later he was again seized with pain in the abdomen which had remained tender till admission and had gradually enlarged in size. The feet and legs also swelled and there was sickness at times and some cough. On admission the boy's abdomen was much distended and the superficial veins over it were prominent. The liver was enlarged and tender, with a sharp edge palpable two inches below the umbilicus. Over the liver there was a feeling as of friction in breathing and an audible "rub" could be made out with the stethoscope. Nothing abnormal was detected in the heart, the apex being on the fourth space in the nipple line. There was fluid in the right pleural cavity reaching up to the fourth rib in front and to the angle of the scapula behind. The right leg and thigh were œdematous and tender. The child's temperature on admission was 100° F. and it gradually rose during the next few days till it reached 103° on Oct. 18th. On this day 11 ounces of clear serum were withdrawn from the chest and the fever subsided. Throughout the illness (in hospital) there was incontinence of urine which contained a trace of albumin. The condition of the child seemed gradually to improve at first, but at about the end of the first week in November the little patient began to go down hill and he died with symptoms of cardiac failure and great restlessness on Nov. 14th.

The necropsy (made by Dr. W. Hunter) revealed extensive sero-fibrinous effusion in both pleural cavities. The lungs were retracted and there was broncho-pneumonia of the lower lobe of the right lung. There were fibrous adhesions at both apices. The bronchial and cervical glands were much enlarged and they were red and engorged. The condition of the mediastinum was the same as in the previous cases and the fibrous tissue was in places almost cartilaginous in consistence. The pericardial cavity was almost obliterated, but it contained in one place a small collection of pus. There was thrombosis of the right subclavian vein and partial thrombosis of the left jugular and there was also some white thrombus in the left innominate vein. There is no note of the size of the heart nor of the condition of the liver which weighed 2 lb. 1½ oz. The kidneys were congested.

These three cases present several points of resemblance and of interest. The patients were all boys, their ages being respectively eight years, 15 years, and six years. The onset of the disease was not clearly marked in the first two cases, but in the third case there was a distinct history of ill-health dating from an attack of whooping-cough. The same disease was the only one known of in Case 1, while in Case 2 measles was the only illness recorded. Considering the frequency of enlargement of the bronchial glands in both measles and whooping-cough it seems reasonable to conclude that the connecting-link between these diseases and mediastinitis may be found in a spread of inflammation from these structures to surrounding tissues. In Case 1 one mediastinal and one cervical gland were caseous. In Case 3 there appears to have been an attack of acute inflammation supervening upon the chronic condition, since there were fever, pleurisy, and an accumulation of pus in the pericardium, while the bronchial glands were recently inflamed. The thrombosis of veins which occurred in this case must also be attributed to recent septic invasion. With regard to the broncho-pneumonia recorded in the post-mortem notes it is noteworthy that the temperature had been normal for some days before death, so that the possibility may be considered of patches of collapsed lung having given rise to this appearance, such collapse being very probable in presence of pleural effusion.

The duration of the illness after definite symptoms had developed was approximately two years in the first two cases. The total duration in Case 1 was probably three years; in Case 2 it was considerably more. Case 3 ran a more acute course, the total duration being only two years and the signs attributable to the mediastinal condition only lasting about three months.

Clinically the most striking feature in each instance was the great enlargement of the liver which was found to reach to or below the level of the umbilicus. In one case there was a definite history of recent rapid growth in size of this organ. Post mortem the condition of the liver was one of very chronic congestion which seemed to have passed beyond the "nutmeg" stage into one of general engorgement, pigmentation, and fibrosis, with a certain amount of fatty change.

The condition of the heart was not recorded in the last case. In the first two cases, however, it was small, the walls in Case 1 being thin and fibrous. Apparently the tough adhesions by which the organ was surrounded prevented any great amount of dilatation or hypertrophy. If my recollection of the necropsy in Case 3 may be trusted the heart here also did not present any great degree of enlargement such as is often met with in patients with adherent pericardium due to ordinary rheumatic pericarditis. All these three cases would be classed as "mediastino-pericarditis," the pericardial cavity being obliterated entirely in the first two and almost entirely in the third. The existence of the small quantity of pus in the sac found in this case seems to be an unusual feature.

Pleurisy with effusion occurred in all three cases. In one instance it was right sided, in another left sided, and in the third bilateral. The inflammatory nature of the effusion is sufficiently proved by the friction-sound heard in one case, by the sero-fibrinous character of the exudate in the third instance, and by the thickening of the pleura always found post mortem. In the later stages of the disease, however, it is possible that some dropsical effusion may be superadded.

The kidneys were in all of the cases found at the necropsy to be much congested; in the two first cases they were also tough from increase of fibrous tissue. The urine was always albuminous towards the end of life, owing no doubt to congestion and œdema. In Cases 1 and 2 no albumin was found during the earlier period of the illness.

The features of these cases may be thus tabulated:—

Case.	Age.	Sex.	Duration.	Heart.	Pericardium.	Pleura.	Kidneys.	Bronchial glands.
1	8 years.	Male.	? 3 years.	Small.	Adherent.	Left pleurisy.	Congested; tough.	Caseous.
2	15 „	Male.	Over 3 years.	Small.	Adherent.	Right pleurisy.	Congested; tough.	?
3	6 „	Male.	2 years.	Not enlarged.	Partially adherent, small collection of pus.	Bilateral pleurisy.	Congested.	Acutely inflamed.

With regard to diagnosis our knowledge may be practically summed up in an *obiter dictum* of Dr. Abercrombie that in all cases of enlarged liver, especially in children, without obvious cause the possibility of mediastinitis should be considered. None of these cases was diagnosed on first admission; the suggestion of hydatid of the liver in the first case has already been mentioned, though here the true condition had been suspected before the operation. The second boy was supposed to be suffering merely from bronchitis and emphysema with failing heart during the earlier part of his first visit to the hospital. In the third case, owing to its acute course, the disease was only discovered after death. During life the possibility of subphrenic abscess or of tuberculous peritonitis and pleurisy was discussed. The increased area of cardiac dulness proper to the condition was not marked in any of these patients. In Case 2 an actually diminished area of dulness existed until comparatively late in the case. Recession of the intercostal spaces with cardiac systole was not present throughout in any one case; indeed, it is not recorded in the notes of any of them, though I remember observing it in the later stages of Case 1. In the other two it was certainly absent. No special peculiarity of pulse was found in any of these patients. The appearance of persistent pleural effusion in connexion with great hepatic enlargement would seem to be of some significance as an indication of mediastinitis.

In addition to the above three cases two others reported by Dr. F. W. Mott [1] do not appear to be included in either Dr. Harris's or Dr. Whipham's lists. These cases were both males, aged 17 years and 23 years respectively, whose chief symptoms were anasarca, ascites, and enlargement of the liver. Pleurisy was present in each patient; the heart's apex-beat could not be localised; there was no albuminuria. Post mortem both were found to be cases of "mediastino-pericarditis" and both presented collapse of the right lung with pleural effusion along with the mediastinal fibrosis. The heart in the younger patient showed some degree of dilatation and its walls were thin and pale; in the second case there was no enlargement but fatty degeneration of the muscle. The liver was in each case of a "nutmeg" character and much enlarged, weighing 3 lb. 6 oz. and 5 lb. respectively. The spleen and the kidneys were normal in the first case but enlarged and congested in the second. A collection of pus was found between the lobes of the right lung in the younger patient—a point of some interest in connexion with the small pocket of pus found in the pericardium of Dr. Mitchell Bruce's patient recorded above (Case 3).

York-street, Portman-square.

[1] The Practitioner, 1887, vol. xxxviii., p. 95.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib iv. Proœmium.

ST. MARY'S HOSPITAL.

A CASE OF GUNSHOT WOUND OF THE ABDOMEN.

(Under the care of Mr. A. J. PEPPER.)

THE following striking case is an example of the very severe injuries which may result from the discharge of a shotgun at a short distance from the body, and the effect was much intensified by the charge meeting with some brass cartridges before it entered the body. The rupture of the liver and spleen and of the diaphragm and the fact that portions of the liver were driven into the left pleural cavity show how great must have been the force of the projectile. It would have been very difficult to have determined the cause of the injuries if there had been no history of how the accident happened. For the notes of this case we are indebted to Mr. C. H. Straton, late house surgeon.

A man, aged 35 years, was admitted to St. Mary's Hospital on Jan. 7th, 1899, in a state of extreme collapse after a gunshot wound of the abdomen. The history of the accident was briefly as follows. The patient had been shooting with a friend in a field on the afternoon of the day of admission; they were walking side by side when his companion fell over a dung-heap and his gun, a muzzle-loading weapon with no trigger-guard, went off. The charge seemed to have first hit the barrel of the patient's gun, indenting it, and then to have ricocheted on to a collection of brass cartridges in his inside pocket and to have driven one of these into his abdominal cavity. The injured man fell at once. A medical man was sent for and found the intestines "out"; he is said to have returned them and then sent the patient to the hospital. On admission, two and a half hours after the accident, the patient was obviously moribund and the wound was not examined. He died about 20 minutes after admission. While the body was being washed an undischarged brass cartridge, uninjured except for a small scratch on the flange, fell from the wound.

Necropsy.—At the post-mortem examination in the anterior abdominal wall stretching vertically upwards from a point one inch above and to the left of the umbilicus was a contused wound about two and a quarter inches long, through which protruded a large mass of intestines and omentum covered with lymph, but not perforated. The edges of the wound were not scorched in any way. There were no other external injuries. When the peritoneal cavity was opened about a pint of dark blood was seen. The liver was enlarged, weighing four pounds four ounces; its left lobe was completely shattered except at its right margin; the injuries radiated from the left margin. The spleen was also much shattered and the remnant weighed only three ounces. The small intestine, except for about 18 inches at each end, was congested and flakey, but there was no perforation of any hollow viscus. The diaphragm was perforated on the left side and the left pleural cavity contained half a pint of dark blood and several fragments of the liver about as large as almonds. Although a most careful search was made no pellets could be discovered or any points of exit found. The other organs were normal and uninjured.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.

A CASE OF ACUTE HÆMORRHAGIC PANCREATITIS SIMULATING INTESTINAL OBSTRUCTION; NECROPSY.

(Under the care of Dr. E. DEANESLY.)

ACUTE pancreatitis is a fairly rare disease if we judge by post-mortem examinations; but it is not improbable that cases end in recovery which have never been diagnosed. The only full account of the disease is that given by Dr. Fitz in his Middleton Goldsmith Lecture.[1] The difficulty of diagnosing these cases from intestinal obstruction is very great, but there is usually very little abdominal distension. It is extremely rare to find the disease occurring before 20 years of age, though its occurrence has been recorded in an infant of nine months.[2] With regard to the cause, bacteria are always to be found in the affected patch, but the form of bacterium present is not always the same; the commonest micro-organism is the bacillus coli communis. For the notes of the case we are indebted to Mr. R. Armitage, house surgeon.

A man, aged 39 years, was admitted into the Wolverhampton and Staffordshire General Hospital on April 10th, 1899, with the history that for several years he had suffered from constipation, but he had never had any previous attack of actual obstruction of the bowels. Three days before admission he was seized suddenly with intense cramp in the abdomen which increased and became agonising pain. The bowels had not been opened for three days before this. After about 24 hours the pain began to lessen and vomiting set in and became incessant up to the time of his admission to the hospital. The vomited material consisted of dark bile-stained fluid with no fæcal odour. Enemata had been administered by the medical man who attended the patient, but had only succeeded in bringing away a few scybala.

On admission the temperature was normal and the pulse was rather small but not much accelerated. The facial aspect

[1] New York Medical Record, 1889.
[2] McPhedran: Canadian Practitioner, September, 1896.

was free from any trace of the sunken and pinched appearance characteristic of grave abdominal mischief. The patient was a big, fat man and was said to have consumed much beer. The abdomen was large and fat but not much distended and moved perfectly with respiration. The pain complained of could not be precisely located but was said to be all over the abdomen. No abnormal swelling could be felt anywhere. There was no hernia. The diagnosis was intestinal obstruction, but there was no guide as to its nature or position.

On opening the abdomen by a median hypogastric incision a considerable quantity of fluid escaped, being at first nearly clear and afterwards turbid, but not purulent or offensive. It lay in the iliac and pelvic parts of the peritoneal cavity. The small intestines were moderately distended and slightly reddened, but after a thorough search with the whole hand introduced no constricting band, volvulus, or collapsed coil could be found. One of the most distended coils was chosen and a Paul's glass tube was tied into it. It was then returned inside the abdomen and surrounded by a few turns of gauze and the abdominal wound was closed. The operation, which lasted about an hour, was borne well. On the following day (April 11th) the patient appeared to be rather better, but vomiting had not ceased and no fæces had escaped through the Paul's tube. Water was poured into the latter through a funnel and tubing raised about 18 inches above the bed; the water entered the bowel freely but on lowering the funnel below the bed nothing returned nor could any water or fæces be withdrawn from the tube by suction with a syringe. Advantage was taken of this fact to administer peptonised milk and brandy by pouring it directly into the small intestine in preference to the rectum. On the 12th there was no improvement in the patient's condition. The vomiting continued and the vomited material became rather offensive but not really stercoraceous. Several large enemata brought away small but increasing quantities of clay-coloured motion. No fæces or flatus had escaped from the Paul's tube in spite of repeated irrigation and suction. On the other hand, it served well for the administration of nourishment. The heart was only kept going by regular doses of strychnia administered hypodermically. The anomalous features of the case now for the first time suggested its true nature, as it afterwards proved, but as it was thought that possibly the opening in the small intestine was below the assumed obstruction a second enterostomy was made in the left flank in order to reach the upper part of the bowel. From this there escaped a pint or two of dark brown fluid similar to the vomited material. In spite of this no improvement resulted and death occurred about 16 hours later.

Necropsy.—At the post-mortem examination the peritoneum was found to contain a good deal of serum but no lymph. The duodenum and the following few feet of small intestine were greatly distended. The distension grew gradually less on descending until at the junction with the cæcum the bowel was quite collapsed and empty. The Paul's tube first inserted was 12 feet above the ileo-cæcal valve, and the second tube was seven and a half feet above this. The failure of fluid to escape from the first tube appeared to be due to the mucous membrane of the intestine opposite its mouth having been pressed by the underlying coils against the tube so as to occlude it. Suction applied to the tube would then merely draw the mucous membrane more tightly against it, although a small amount of positive pressure from without would disengage it and allow fluid to enter the bowel. The omentum and parietal peritoneum were studded with very numerous small yellowish-white circular spots from one-eighth to one-quarter of an inch in diameter. They closely resembled miliary tubercles, but were flat and soft to the touch. They were most numerous about the root of the transverse meso-colon and the immediate neighbourhood of the pancreas and spleen, as well as on the portal fissure. The spleen was not much altered. The liver was very large and fatty, weighing 60 ounces. The pancreas was embedded in a dense mass of the small white patches which were afterwards shown to be areas of fat necrosis. The pancreas was enlarged to quite twice the natural size and on section showed to the naked eye the typical red and yellow mottled appearance of acute hæmorrhagic pancreatitis. The kidneys appeared to be healthy but subsequent microscopic examination demonstrated well-marked interstitial nephritis. As regards the microscopic appearance of the pancreas Mr. J. H. Targett, of the Clinical Research Association, reported that there were large areas of necrosis, congested vessels, and widespread extravasation of blood, with a striking absence of true inflammatory changes, especially in the vicinity of the necrotic areas. Hence the necrosis looked as if it had been produced by some chemical agent. The case was one of simple hæmorrhagic pancreatitis associated with or producing fat necrosis.

Remarks by Dr. DEANESLY.—The above case agrees in its main features with previously published cases of this disease. Indeed, it is remarkable that so well-marked a clinical entity as hæmorrhagic pancreatitis should so long have escaped recognition. The majority of recorded cases like the present one have been mistaken for internal strangulation of intestine and submitted to larparotomy. Almost all known cases have proved fatal, but there is, I believe, on record one case in which the patient recovered after the diagnosis had been established by laparotomy. I have myself seen a case which presented all the clinical features of the disease and in which recovery took place under medical treatment. Of its pathology I am not competent to speak, but from the surgical point of view I may remark on two points. First, as regards the diagnosis I do not see that it could have been made without opening the abdomen. The symptoms were those of acute intestinal obstruction and the freedom of the abdominal movements practically excluded peritonitis. The only point which caused me to doubt internal strangulation was the absence of the usual abdominal facies, which is undoubtedly a symptom of great significance. Secondly, the failure of fæces to find an exit from the small intestine, even through a glass tube nearly half an inch in diameter, is a circumstance which has occurred to me before and doubtless to other surgeons. The explanation which I derived from the post-mortem examination is, I believe, the correct one. Paul's method of enterostomy by tying in a flanged glass tube is an excellent invention and answers admirably so long as some peristaltic power remains in the bowel, but it is certainly difficult and at times impossible to empty a passive collapsible intestine by a *vis a fronte* such as suction by a syringe or the action of a syphon. As was shown in this case any amount of fluid can be introduced but not withdrawn. The bearing of these remarks on the proposal to empty the small intestine in cases of general purulent peritonitis is obvious. This could only be effectually performed by having two tubes tied in—one at the upper and the other at the lower part of the bowel and passing a stream of water from the former to the latter.

Medical Societies.

OPHTHALMOLOGICAL SOCIETY.

Operative Treatment of Eyes Exhibiting High Degrees of Myopia.

A SPECIAL meeting of this society was held on June 9th, Mr. H. R. SWANZY, the President, being in the chair, to discuss the subject of the Operative Treatment of Eyes Exhibiting High Degrees of Myopia. Mr. F. RICHARDSON CROSS opened the discussion with a paper which we publish in another column.

Mr. HARTRIDGE stated that the power of accommodation of myopes was not equal to that of emmetropes, the ciliary muscle being smaller. In high grades of myopia accommodation was much impaired. The vitreous body in such cases was not healthy and this added to the uncertainty of results in connexion with operation. Some years ago when Mr. C. Wray brought some cases of the kind forward the feeling of the society was against operation. Mr. Hartridge had now performed the operation of removal of the lens 17 times for relief of high myopia and he was favourably impressed with the result. He relied on retinoscopy in estimating the degree of myopia. The operation consisted of free needling of the anterior capsule and after seven or eight days the removal of the soft lens matter by means of the keratome and curette. Capsulotomy was required after six or seven weeks. In one case with gross changes at the macula hæmorrhage occurred at the yellow spot with detachment of the retina later. Removal of the lens in an elongated eye often reduced the myopia by 25 dioptres, and in all his cases, except that of

detachment of retina, vision had been better without glasses after the operation than it had previously been with them.

Mr. LANG quoted from an experience of 30 cases, the two earliest of which had been operated on in 1892. The effects were, however, not satisfactory and he had not operated in these cases again till 1897. It was of great importance in needling to puncture at the sclero-corneal junction. There was then less liability to prolapse of capsule or vitreous or to septic inflammation. The cases had not been selected except that they were above 15 dioptres of myopia and had no central choroiditis. Complications at the operation had been insignificant and he employed the same method as described by Mr. Cross. He preferred to make the corneal incision for extraction about midway between the centre and periphery of the cornea and to use a keratome. His cases were too recent to trace any increase of myopia. There was no tendency to divergence.

Mr. TREACHER COLLINS spoke in favour of the operation. He had treated both eyes in three cases, and in five instances above 20 years and three under that age had operated on one eye only. In none was the sight rendered worse. In one in which choroidal atrophy was present there was no improvement. Mr. Collins thought that the gratification expressed by patients and their anxiety to have a second eye operated on as well as their increased ability to do useful work were important evidence of the value of the method.

Mr. CARGILL quoted six cases in which great benefit had resulted from removal of the lens, in one of the cases in both eyes. Sight had been improved in all and there had been no difficulties at the operations.

Mr. ADAMS FROST had operated on 24 eyes in 22 patients and this experience had satisfied him of the value of the method of treatment. The removal of the lens altered the eye as an optical instrument, having more effect in proportion to the degree of myopia, much as in a microscope movements of focussing produced more effect on the high than on the low power. The operation was justified where the patient was enabled to dispense with glasses or when the vision was improved with or without them and in cases where the images were imperfect or the patient was unable to wear the correcting glasses. The measure of success was not fully expressed by test types—patients being more than proportionately pleased by the improvement in vision. He cited six failures—two from detachment of the retina, two from previous choroiditis, one from suppuration after the fourth needling, and one without assignable cause.

Dr. RAYNER BATTEN quoted seven cases with marked improvement. There was arrest of the progressive myopia and definite shrinkage of the globe with thickening of its coats as shown by diminished translucency to cross illumination.

Mr. C. WRAY alluded to the remote results, referring to two cases with cataract and high myopia done seven or eight years ago in patients over 50 years of age. Vision had been $\frac{6}{9}$ and $\frac{6}{12}$ without deterioration.

Dr. BREUER quoted two cases in patients of 42 and 16 years of age in whom good results followed the removal of lenses.

Mr. CRITCHETT referred to the operation of discission in an adult as one which had been regarded with grave anxiety by his father and Sir William Bowman. He asked whether the breaking up of the surface only or of the deep parts of the lens was most effective.

Mr. JESSOP referred to 102 eyes so operated on in Paris in which the results had not been entirely good. There were risks of vitreous opacities and cyclitis. Free discission of the lens hastened its removal.

Mr. SYDNEY STEPHENSON had operated on five eyes in the manner described without complications and with decided improvement in vision. He introduced a modification of Teale's instrument for suction.

Mr. LAWFORD emphasised the necessity for caution in this operation. He had treated 27 eyes with encouraging results but with a loss of two and seven doubtfully improved.

Mr. DOYNE referred to the question of divergence.

The PRESIDENT had operated in 37 cases without disaster. He preferred discission of the lens to extraction. In two cases there had been loss of vitreous and in two vision was not improved. He preferred to operate only on one eye.

Mr. SIMEON SNELL remarked that he had performed extraction of the lens in 20 cases of high degrees of myopia. The patients numbered 12 and in eight both eyes had been operated upon. Two patients (both eyes) treated more than two years ago had been under observation to the present time and the satisfactory result secured had been permanent. A third case (both eyes) operated upon about the same time had been heard of as remaining satisfactory. The lens in each of the 20 instances had first been needled and at the expiration of about a week the broken-up lens had been removed through a corneal incision made with a broad needle. The youngest patient was aged 11 years, the oldest 37 years, and with the exception of one aged 32 years the ages of the others ranged between 20 and 30 years. The lowest degrees of myopia were 13 D. (other eye 20 D.), 14 D. and 16 D. The highest degrees were 27 D. and 28 D.; one left the country before a final result was recorded; in another eight months after operation vision greatly deteriorated after strain of heavy nursing, without gross changes in the eye. Reference was made to the marked reduction of refraction as instanced: 28 D. to -1 D.; 25 D. to -2 D.; 23 D. to zero; 16 to -2 D.; and mention was made of the increased visual acuity which was a noticeable feature in several of the cases. The altered conditions were much appreciated by the patients; as instances, a domestic servant performed her work, she alleged, better now without glasses than formerly she did with them; a wire-drawer gave a similar experience and observed, among other things, that he could now better make out the decimals on the gauge. Mr. Snell said that his experience had led him to form a favourable opinion of the operation and to regard it as likely to hold a recognised place in ophthalmic surgery.

Mr. RICHARDSON CROSS said that up to the present only continental results had been published and these he quoted in his tables. He reserved judgment as to operating on both eyes but was satisfied with one at present. Macular choroiditis was unsatisfactory but good results had followed operation in some instances. Mr. Maclehose had shown that a considerable range of accommodation was possessed by myopic eyes. He referred to Mr. Wray's paper as an important contribution, though at the time the proceeding was discouraged. He agreed with the President as to discission, but evacuation was often forced upon them and it was better to anticipate changes due to the swollen lens.

EDINBURGH OBSTETRICAL SOCIETY.

Mistaken Sex in Adult Life.—Eclampsia.—Exhibition of Specimens.

A MEETING of this society was held on June 14th, Dr. HALLIDAY CROOM, the President, being in the chair.

The PRESIDENT made special reference to the loss which the society had sustained by the death of two of its honorary Fellows, Dr. John Moir and Mr. Lawson Tait, and of a Corresponding Fellow, Dr. Sinclair Coghill.

The PRESIDENT read a paper on Two Cases of Mistaken Sex in Adult Life. The individuals had been brought up till over 20 years of age as females and he was consulted owing to the absence of menstruation. On examination under chloroform it was found that they were both cases of peno-scrotal hypospadias. Dr. Croom discussed the difficulties attending such cases, both legal and social, pointing out by illustrative cases the complications which arise when the exact sex is overlooked at birth. He further discussed Neugebauer's recent paper on the subject.

Dr. JARDINE of Glasgow read a paper on the Treatment of Eclampsia by Intercellular Injection of Saline Fluid. With the exception of concealed accidental hæmorrhage and rupture of the uterus there was no more fatal complication met with in midwifery than eclampsia. Different theories had been advanced from time to time as to the cause of the convulsions. They were probably caused by a toxæmia of a urinary nature, toxic substances being retained in the blood which should have been excreted by the kidneys. The liver also seemed to be involved in some way. The toxic matter accumulated in the blood and as the kidneys were unable to accomplish the extra work thrown upon them it so seriously affected the nervous system that an explosion occurred in the form of convulsions. The presence of albumin in the urine merely indicated that the kidneys were sadly out of gear. If a toxic substance was circulating through the system it might be got rid of by three main channels—the bowels, the skin, and the kidneys. All of these channels were useful, but the most useful one was that belonging to the system which was chiefly involved. In the case of toxæmia arising from absorption through the bowels the fæcal accumulation must be thoroughly cleared out. In the case of eclampsia it was through the kidney that they should strive to get rid of the

poison, at the same time aiding the result by purgation and diaphoresis. If a case were treated before the onset of convulsions the administration of drugs to act in this way would in nearly every case prevent the fits. When the fits had occurred purgation and diaphoresis might usually be brought about by means of croton oil (though this was an uncertain drug in these cases), enemata, and a hot pack or bath. It was more difficult to get the kidneys to act. Often the patient could not swallow and if she could diuretics by the mouth were slow in action and time was of the utmost importance. For this end saline injections had been found to be very helpful. The solution, which Dr. Jardine first used, consisted of one part of bicarbonate of potash to three parts of common salt, and of this one drachm to the pint of sterilised water at 100° F. The potash was added owing to its powerful diuretic action. When injected directly into the blood it was a powerful poison, while soda was not, but then soda had only a feeble diuretic action. In the cases detailed nothing detrimental was observed as a result of the use of the potash salt. In the latter cases of the series the potash had been increased to equal parts with the common salt. He had since been advised by Professor Stockman to use acetate of soda. The apparatus consisted of the trocar and cannula portion of an aspirator; to this about three feet of tubing were attached and a filler of the shape of a large test-tube. The whole could be sterilised. The injection might be made into any part of the body where the tissues were loose. Under the edge of the breast was a convenient place before delivery and the lax abdominal wall after. One pint of the solution had been injected in four minutes; absorption began at once and it all disappeared in from 15 to 20 minutes. This method of injection was very valuable in cases of severe hæmorrhage; from three to four pints of normal saline solution had restored practically pulseless women. In an experience of over 50 cases there had never been any abscess formation. Dr. Jardine then read full notes of 12 cases of eclampsia treated with saline injections by himself and his colleague Dr. Black. The experience was that the diuretic effect was a marked one. Analysis of the urine before and after injection had shown that there was a marked proportional increase in the excretion of urea and uric acid; and considering that the amount of urine was tremendously increased after the injection the total amount of urea and uric acid expelled from the system must be very great. It might be maintained that these substances had nothing to do with causing the convulsions, but their presence in large quantities in the system could not be beneficial to the patient and it was certainly better to clear them out. Other substances might also have been carried away. There was just a possibility that the bicarbonate might have a neutralising effect on the poison. If the poison were known it might be possible to neutralise it by the injection of an antidote, but in the meantime only means to get it expelled from the body could be used. For controlling the fits Dr. Jardine at first favoured the use of morphia, but he now believed that it interfered with the action of the kidneys; in one of his cases it seemed to be the cause of death. In the others in which it was used the diuresis after the saline injection was not so marked as in those treated with chloral and bromide or tincture of veratrum viride. The latter drug he was disappointed with when used alone; he had more faith in the use of chloral and bromide along with the injections. If labour had commenced it was advisable to deliver as soon as possible if the patient was very ill. If labour had not commenced he was inclined not to interfere unless the fits persisted despite treatment. It was interesting to note that the child's urine in one case contained almost the same amount of albumin as did that of the mother.—Dr. MILNE MURRAY, Dr. HAULTAIN, Dr. FOULIS, Dr. MCVIE, and others discussed the paper.

Dr. FOULIS read a communication and gave a demonstration with specimens on the Connexion between the Wolffian Duct and the Testicle of the Embryo.

The following specimens were exhibited:—

Professor SIMPSON showed the Fœtal Bones removed from the bladder in a case of extra-uterine gestation. The fœtus had died at six months and some of the bones had been passed for months by rectum and bladder, a fistulous communication having taken place.

Dr. KEPPIE PATERSON showed an Intra-uterine Fibroid removed "morcellement."

Dr. HAULTAIN showed (1) a Double Monster; (2) a Dermoid Cyst attached to the bladder and simulating a bladder tumour; (3) a Myxosarcoma of the Uterus, evidently a secondary degeneration of a fibroid; and (4) an Ovarian Cyst removed seven weeks after parturition and where the milk secretion was kept unimpaired by leaving a large quantity of boroglyceride solution in the peritoneal cavity to obviate the lack of fluid subsequent to the operation.

Dr. CROOM showed (1) a Fœtus and Placenta from a case of Complicated Labour; (2) a Large Vesical Calculus; and (3) Some Ovarian Tumours.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

"Missed Labour."—The Bacillus Coli Communis as a Cause of Puerperal Septicæmia.—Exhibition of Specimens, &c.

THE last meeting of this society for the session was held on May 31st, Mr. ALEX. MILLER, the President, being in the chair.

Dr. WILLIAM MCFARLANE (London-road) read a paper on "Missed Labour." Two cases were reported. In one case Dr. McFarlane delivered a patient on four different occasions of a decomposed fœtus which had been retained in utero for one month, two months, two months, and half a month respectively beyond the expected time of delivery. In the other case the fœtus was retained for six weeks beyond the expected time. The date of expected delivery in both cases was calculated from the last menstrual period. At the time of expected delivery there were none of the symptoms of labour, but from the appearance of the fœtuses and the symptoms complained of by the mothers—such as cessation of the fœtal movements and the feeling of weight in the lower part of the abdomen—their deaths, Dr. McFarlane concluded, must have taken place at that time.

Dr. MUNRO KERR read a paper on the Bacillus Coli Communis as a Cause of Puerperal Septicæmia. He reported two cases where pure cultures of this organism were obtained from the cervix uteri. In one case the disturbances were comparatively slight and were removed after one or two intra-uterine douches of perchloride of mercury, 1 in 3000. In the other case, seen in consultation, in spite of the usual treatment and intra-uterine douching the patient died. In his remarks Dr. Munro Kerr pointed out that in febrile disturbances during the puerperium the bacillus coli communis is found in somewhere about 15 per cent. of the cases, sometimes in pure but frequently in mixed cultures. He also remarked that in bacillus coli infection the disease seemed to run a slower course than where other organisms were the cause of the septicæmia, that the symptoms were less acute, that fœtor of the lochia and diarrhœa were often very great, and that if the disease was not arrested the patient gradually sank into a low typhoid condition before death. As regards the prognosis he said that both grave and mild cases might result from infection by this organism, but that it seemed as if it were a less serious infective agent than the streptococcus. Cases of "mixed infections" with the latter, however, were often specially serious. Lastly, he pointed out that extensive lacerations of the perineum were often associated with infection by the bacillus coli communis.

Dr. R. JARDINE showed: 1. A beautiful specimen of a Ruptured Uterus with the "Retraction Ring" well marked. The specimen was hardened with the child *in situ*. The patient arrived at the Glasgow Maternity Hospital in a collapsed condition. Her medical attendant diagnosed a mento-posterior position of the face, ruptured the membranes when the os was fully dilated, attempted to extract several times with forceps, failed, and then having seized a foot was going to perform version when the patient suddenly became collapsed. She died shortly after admission to the hospital. 2. A Fibroid Tumour and Uterus removed by Porro's operation. The patient was very much collapsed when admitted to the Maternity Hospital. She died 44 hours after the operation. 3. A Skull fractured during Delivery which was accomplished by forceps. The fracture was caused by the projecting promontory of the sacrum. The mother's pelvis was of the rachitic flat variety, the conjugate diameter being about three and three-quarter inches. The child breathed after delivery and seemed all right, but was discovered dead in the cot about 17 hours later. 4. A photograph of a Child's Head showing marked depression of the parietal bone on one side. Delivery had been effected by forceps by the house surgeon in hospital. There was no deformity of the pelvis.

Reviews and Notices of Books.

The Serum Diagnosis of Disease. By RICHARD CABOT, M.D., Physician to Out-patients, Massachusetts General Hospital. London and Bombay: Longmans, Green, and Co. Pp. 150. Price 7*s.* 6*d.*

DR. CABOT'S book on the Clinical Examination of the Blood is so well known in this country that the present work giving an account of Serum Diagnosis will be welcomed. It is mainly, as its author says, a compilation rather than an account of his own investigations and it gives a very fair account of the present position of our knowledge of serum diagnosis. After a short general account of the phenomena of agglutination—which was first systematically investigated by Durham and Gruber and applied to clinical work chiefly through the teaching of Widal—Dr. Cabot goes on to give clear descriptions of the various methods which are employed and of the fallacies which may creep in unless precautions are taken. Unlike most recent authors he still thinks that a clumping with a dilution of one in 10 may be considered as a positive reaction if it occurs in less than half an hour. Most observers, however, would not think the reaction conclusive unless the serum was diluted to at least one in 20. Full directions are given for the preparation of active cultures of typhoid bacilli for test purposes. The second part of the book is concerned with the employment of the method of serum diagnosis in typhoid fever and also in Malta fever, cholera, glanders, &c. The question of serum therapeutics is not touched. The book is well printed and there are some excellent micro-photographs illustrating the clumping reaction. There is a long bibliography which, however, loses half its value from the omission of the titles of the papers which are referred to only under the names of their authors. The language employed is often slipshod and the clinical descriptions are condensed and jerky. But these defects can be easily remedied in a future edition. The book can be recommended to those who wish to obtain a good general idea of our present knowledge of an interesting branch of pathology and one which promises to be of great practical utility.

Clinical Lectures, delivered before the Students of the Imperial Moscow University. By G. A. ZACHARIN, M.D., late Professor (Emeritus) of Clinical Medicine and Director of the Therapeutical Faculty Clinic of the Imperial Moscow University. Translated from the fifth Russian edition by ALEXANDER KOVINSKY, M.D. Boston: Darnull and Upham. 1899. Pp. 487.

THIS volume consists of a series of lectures delivered before the students of the Imperial Moscow University. It is difficult to criticise them, on account partly of the peculiar English into which they have been translated and partly on account of the apparent great differences in the mode of living of the patients whose cases are related. The "personal history" of each individual brings a smile to the face of the English reader, as great importance is attached as to how often and in what manner the patients wash themselves and as to whether or no the "water-closet is cold," which in nearly all instances it appears to have been. Such questions may of course be necessary in regard to Russian hospital patients, but in England we take it for granted (perhaps we are often mistaken) that suitable and daily ablutions are performed and that the medical officer of health ascertains that the sanitary conditions are in accord with the regulations. The novel plan is adopted of reserving the diagnosis of the case until all the facts of the case have been detailed. This arrangement may be the means of affording good tests for students preparing for examinations, but it is not satisfactory for ordinary reading. The means of treatment and arrangement of the diet are difficult to follow but the clinical descriptions are good. We do not think, however, that the work is likely to have a large circulation in this country.

LIBRARY TABLE.

Annales de l'Institut Pasteur. Edited by M. E. DUCLAUX. Tome XIII., No. 5. May, 1899. Paris: Masson and Co.—The May number of the journal contains the following articles: 1. La Pneumonie Pesteuse Expérimentale, by M. Batzaroff. 2. Études sur l'Immunisation contre le Sérum d'Anguille. 3. Phagocytosis chez le Pigeon, by M. Dembinski. 4. Étude Expérimentale sur le Sort des Toxines et Antitoxines introduites dans le tube digestif des animaux, by M. Carrière. This research shows that although toxins and antitoxins taken by the mouth are not acted on by the gastric juice they are quickly destroyed by the secretion of the pancreas and of the intestinal glands.

Edinburgh Medical Journal. New Series. Vol. iv. Edinburgh and London: Young J. Pentland. 1898. Pp. 590.—The editor, Dr. G. A. Gibson, has once more to be congratulated on the papers which he has been able to secure for his journal. This issue upholds the high standard of its predecessors and contains a large number of valuable original contributions. Notices have already appeared in THE LANCET upon some of the articles, but to those who now see them for the first time we would draw attention to a few which seem to us of particular interest. Dr. George Oliver's paper on the Clinical Aspects of Arterial Pressure runs through four numbers. He first describes his hæmodynamometer—an instrument devised for accurately estimating blood-pressure—and then proceeds to discuss some of the general facts pertaining to arterial, peripheral, and venous blood-pressures. Dr. Alexander Morison's paper on the Relation of the Nervous System to Disease and Disorder of Viscera: the Pathology of Visceral Innervation, is well worthy of perusal. Our readers may remember that this subject formed the basis of the Morison Lectures delivered before the Royal College of Physicians of Edinburgh, in November, 1898.[1] Dr. W. Allan Jamieson writes on The Application of Rest in the Treatment of Disease of the Skin. This paper was read as the Introductory Address in the Section of Dermatology at the annual meeting of the British Medical Association held at Edinburgh. Dr. Suckling contributes an article on Moveable Kidney, with Special Reference to its Influence on the Nervous System. Mr. Alexis Thomson's paper on "Personal Experiences in the Treatment of Enlarged Prostate" is interesting, as is also Dr. Kelynack's article on Dissecting Aneurysm of the Aorta. The copious abstracts from current medical literature and the reports of the medical societies render the volume a useful one for reference.

JOURNALS.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, M.D. Cantab., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. xxiv., Nos. 3 and 4. London: C. J. Clay and Sons. June 13th, 1899. Price 7*s.*—The contents of this number of the *Journal of Physiology* are as follows:—1. Professor G. N. Stewart: The Behaviour of the Hæmoglobin and Electrolysis of the Coloured Corpuscles when Blood is Caked. Professor Stewart endeavours to show that when caking of the blood is brought about by foreign serum or by freezing and thawing the hæmoglobin is split off and passes through the

[1] THE LANCET, Dec. 17th, 24th, and 31st, 1898.

envelope of the corpuscles which though not normally permeable to dissolved hæmoglobin is normally permeable to dissolved hæmoglobin rendered permeable in the process of caking. He has satisfied himself that the caking process is not a coarse rupture of the envelope. His observations further lead him to believe that the non-nucleated red corpuscle possesses a solid or semi-solid framework as seems to be the case in the nucleated red corpuscles. 2. Dr. H. M. Vernon: Heat Rigor in Cold-blooded Animals. This article, which is illustrated by 17 graphic tracings, contains the results of a large number of experiments and shows that on gradually heating the voluntary muscles of certain Amphibia three distinct contractions are generally to be observed, the initial contraction beginning at about 33° C. and culminating at about 43° C., a second contraction occurring at from about 50° to 56° C., and a third at about 70° C. Excitability was lost at about 38·5° C. In addition to the voluntary muscles the heart and unstriated muscles were subject to examination. The first contraction seemed to be of a tetanic character whilst the second and third contractions appeared to be due to the coagulation of proteids. 3. Mr. W. B. Hardy: On the Coagulation of Proteid by Electricity. The experiments show that under the influence of a constant current the particles of proteid in a boiled solution of white of egg move with the negative stream if the reaction of the fluid is alkaline but with the positive stream if the reaction is acid, the particles under this directive action aggregating to form a coagulum. 4. Dr. M. S. Pembrey and Mr. A. G. Pitts: The Relation between the Internal Temperature and the Respiratory Movements of Hibernating Animals. The animals examined were dormice, hedgehogs, a marmot, and a bat. The conclusion arrived at is that there is a relation between the internal temperature and the nature of the respiratory movements of the above-mentioned hibernating animals. The types of respiration at different periods are described in detail. 5. Mr. Ernest Starling: The Glomerular Functions of the Kidneys with four figures in the text. The observations made support the view of Sir William Bowman that the glomerular epithelium may be looked upon as a simple filtering membrane—that is to say, that it resembles in many particulars a membrane of gelatine. The part also includes the Proceedings of the Physiological Society on May 13th, 1899.

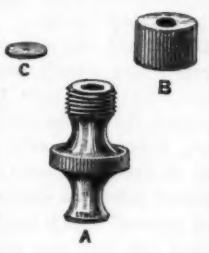
The Journal of State Medicine. Vol. vii., No. 6. June 1899. Price 2*s*. London: Baillière, Tindall, and Cox.—Sir Charles Cameron and Dr. W. R. Smith contribute to this number a paper on the composition of brandy in which they point out, what has for many years been suspected, that a large amount of the so-called brandy consumed cannot in all probability be the produce of the wines of the Cognac district but rather grain spirit artificially flavoured. The writers speak highly of certain samples of brandy made from Spanish wines. We propose to deal with this paper in some detail in a future issue. Mr. William Berry writes upon the Control of Measles and Whooping-cough, and Dr. Patrick Letters on the Prevention of Measles in Rural Districts. Both these latter papers were read at the Dublin Congress of the Royal Institute of Public Health in August, 1898.

GLOUCESTER GENERAL INFIRMARY.—At the last meeting of the committee of the Gloucester General Infirmary Dr. Rayner Winterbotham Batten, J.P., resigned his appointment of senior physician to the institution. The chairman in expressing the regret with which the committee accepted the resignation alluded to the great interest that Dr. Batten had taken in the infirmary during the 33 years with which he had been connected with it, and it was unanimously resolved to recommend the governors to appoint Dr. Batten consulting physician.

New Inventions.

AN EJECTOR FOR VACCINE LYMPH.

VARIOUS contrivances have been from time to time suggested for the purpose of avoiding the obvious objections to the practice of expelling lymph from vaccine tubes by holding the tubes between the lips and blowing into them with the breath. Messrs. Lynch and Co., Limited, of Aldersgate-street, E.C., have recently introduced an ejector by which the necessary pressure of air can be obtained from any ordinary hypodermic syringe. It consists of a tubular metal mount about three-quarters of an inch in length, shown full size in the accompanying illustration (A). At one end of this mount the central aperture is tapered so that it will fit on to the nozzle of the syringe and the other end is covered with a removeable screw cap having a small hole in its centre (B). This cap compresses against the end of the mount a perforated disc of indiarubber or leather (C) through which the tube of lymph has previously been passed. The ends of the tube are then broken off and the connexion is made with the syringe. The price of the mount is 1*s*. The discs are of about the size of a hypodermic tabloid and when they require renewal they can be easily made from a piece of indiarubber bandage or leather. The mount itself being entirely of metal will outlast an ejector made wholly or in part of indiarubber which is liable to gradual deterioration, especially in hot climates.



A CUP FOR USE IN THE FEEDING OF THE INSANE.

MR. W. E. BURTON has designed—at the suggestion of Nurse C. W. Knight—a cup to be employed in those cases of dementia in which enforced feeding is necessary. The reservoir is made of copper and domed over. The spout is of steel and terminates in a wedge-shaped nozzle which is fenestrated on the upper and under surfaces. The whole is

thickly plated with either silver or nickel. In proceeding to use the cup the nozzle is pushed upward and backward between the incisor teeth until about half an inch has been got through when by slightly raising the reservoir and still maintaining pressure as much of the spout is introduced as may be necessary. The cup has been used for several weeks in a very troublesome case with perfect success. It is easily cleaned. The makers are Messrs. Mayer and Meltzer.

THE LANCET.

LONDON: SATURDAY, JULY 1, 1899.

AT the present time there are three matters of importance which concern the Royal College of Surgeons of England—the first is the approaching election of members of Council, the second is the annual meeting of Fellows, and the third is the proposed application for a supplementary Charter.

The election of two members of Council will take place on Thursday, July 6th, and voting papers have already been issued to all Fellows in the British Isles; these must be returned, duly filled up, so as to reach the College before half-past one on the day of election. Fellows who prefer it can still vote in person, and, indeed, six Fellows exclusive of members of the Council must be present before the election can commence; but the number of personal votes is yearly diminishing and before long practical difficulties may arise in the conducting of the election unless more Fellows are willing to attend personally. At the present election there are two vacancies caused by the termination of the period for which two members, Mr. JESSOP and Dr. WARD COUSINS, were elected; but these two gentlemen offer themselves for re-election and two other candidates have also been nominated—namely, Mr. H. W. PAGE of St. Mary's Hospital and Mr. JORDAN LLOYD of Birmingham. Mr. JESSOP of Leeds has served one term of eight years and Dr. WARD COUSINS, although twice elected, has only been a member of Council for four years, as he was elected as substitute member in the place of a member of Council who died before the termination of his period of office. Mr. PAGE is a well-known London surgeon, one of the senior surgeons at St. Mary's Hospital, and Mr. JORDAN LLOYD, the youngest candidate, is a surgeon who has done much good work. In making their choice among these four candidates the Fellows must in the first place decide whether they wish to maintain the present number of provincial representatives. There are now five members of Council who come from provincial hospitals and if the Fellows think four sufficient they cannot do better than support Mr. PAGE who would be an excellent addition to the Council; but if, as we are inclined to think will be the case, the Fellows consider that the provincial Fellows are not over-represented by five members, then they will have to choose between retaining both the retiring members of Council or substituting Mr. LLOYD for one of them. There is a natural tendency to re-elect retiring members and it is therefore not unlikely that the two present members will be returned.

The approaching meeting of Fellows is also a matter of no small importance. In 1894, after much persuasion, the Council of the College decided to establish half-yearly meetings of Fellows apart from the Members. At first these meetings were well attended, the agenda papers contained several resolutions of matters of interest to the whole body of Fellows and the debates were lively and well sustained, but as time went on the interest waned and at some meetings the only business was the confirmation of the minutes of the previous meeting. The number of Fellows present steadily diminished until in January, 1898, the quorum of 30 was not obtained and the Council decided a little later to call only one meeting in each year. But the July meeting was as unsatisfactory; again a quorum was not present. Two years have now elapsed since a meeting of Fellows was held and a meeting has been fixed for Thursday, July 6th, immediately after the election to the Council. We regret to say that there is no small likelihood that the 30 Fellows required by the rules will not be present on this occasion also. Should this prove to be the case it is not improbable that the Council will determine to do away with the regular meetings of the Fellows and for this unfortunate result the Fellows cannot fairly blame the Council, for it has been brought about by the utter apathy and lack of interest displayed by the Fellows themselves. This would be a deplorable ending to all the trouble and exertion expended a few years ago to establish these meetings. We appeal to the Fellows to attend this meeting though, alas, the only agenda are the presentation of a report from the President that the Council have abolished one of the Fellows' meetings and a motion that the minutes of the meeting in 1897 be confirmed. It is now too late to give notice of any resolution for the meeting, but there are many subjects having reference to surgical education which well deserve to be discussed by such a body as the Fellows and we urge Fellows to bring forward some of these subjects at subsequent meetings.

The third matter which is important is the proposed supplementary Charter. During the year 1900 will be celebrated the centenary of the first Charter of the College and it is intended to apply to the Crown for a supplementary Charter which will give the Council power to grant diplomas of honorary Fellowship to distinguished persons, the number of these diplomas never to exceed 50, and the Council have summoned a special meeting of the Fellows and Members for Wednesday, July 5th, to consider this draft Charter. This is a graceful act on the part of the Council and we do not expect that any Fellow or Member will oppose such an application. There is, however, another aspect of this application for a new Charter which must be considered. In reply to the many applications of Members for some share in the representation on the Council it has often been stated that a new Charter would be necessary and stress has been laid on the difficulties of obtaining a new Charter, so that now, when the members of the Council themselves are anxious to obtain a new Charter, they have an excellent opportunity for redressing long-standing grievances. The Council indeed have stated that the proposed Charter is merely supplementary and should be confined to one object, but this difference is purely imaginary. If the Council wished to insert clauses conferring the franchise on the Members no unsurpassable difficulty would be met with. In the last issue of THE LANCET we published the text of a petition to the Council emanating from the Society of Members. This petition requests that in the application for a new

Charter provision may be made for according to the Members some representation in the governing body of the College. We have so often spoken in favour of such a change and we have so often pointed out the injustice of the present arrangement and the benefit which would result to the College of Surgeons and to the profession at large if this boon were granted that it is hardly necessary to state that we most cordially support this petition. The long period of unrest from which the College has been suffering can only come to an end by some concession to the Members; the change must come and a better opportunity for the performance of a graceful act by the Council is not likely to present itself; the centenary celebrations will be incomplete if the Members have no share in their own College; and as an application for a Charter is to be made we cannot see any insurmountable obstacle in the way. Many members of the Council favour some concession and a large proportion of the Fellows are willing that the Members should be represented. Let us hope then that the Council will avail themselves of this opportunity and by an act of justice establish on a secure basis the constitution of the College.

In THE LANCET last week was published a form of the petition to the Council for signature and we urge Fellows and Members who approve of its terms to sign it and to send it to the Honorary Secretary of the Society of Members at 11, Adam-street; and further, they should endeavour to obtain the signatures of other Fellows and Members whom they may know. To be effective the petition must be numerously signed and must be presented very soon; so that if any good is to be done it must be done quickly. It is also highly desirable that all Fellows and Members who can do so should attend the meeting at the College on Wednesday, July 5th, at 3 P.M., that they may support with their votes the cause of the Members.

IN so far as the dry land is concerned the cause of sanitation has of late years made what on the whole may be called praiseworthy progress all the world over, such more especially being the case in our own country where at comparatively little cost a careful and intelligent citizen can now as a rule make sure that both his family and himself are protected from most of the preventable diseases; but when we come to consider the question in connexion with the second great constituent of the earth's surface the sanitary record unfortunately becomes less satisfactory. There is no doubt that the modern discovery of germ infection has had the effect of impressing upon the public mind the very great advantages to be derived from practical hygiene, and yet in spite of the well-known fact that water frequently serves as the transmitter of specific seeds many of our rivers and streams are still subjected to wilful pollution, wells and cesspits are still allowed to remain perilously close to each other, water-closets continue to be constructed where no sewers exist, and even the health-giving sea itself has been dangerously contaminated.

There are many other ways in which the sanitation of water has been left to chance or only assured in a perfunctory way. Numbers of people who take great pains to safeguard the quality of the drinking-water in their houses by means of filters which in reality are more or less inefficient if not absolutely injurious, and who even go at times to the length of having their supply boiled before use, have nevertheless no hesitation whatever in freely consuming the various sweet effervescing liquids and so-called mineral waters that have become so wonderfully popular as summer beverages. Without reflection they take the purity and wholesomeness of these seductive compounds for granted, and although it may be that their faith for the most part is well placed, still there is not always a guarantee that the water employed is obtained from trustworthy sources. In India until recently the manner in which our troops in the Mofussil were supplied with drinking-water afforded facilities for contamination which no hygienist could contemplate without horror, but we rejoice to learn that in this respect a most important reform has at last been decided upon. The objectionable *mussuk*, or hide, which from time immemorial has been well-nigh the sole means in use for conveying water from spring, well, or river as the case might be to the consumer's dwelling—the carrier, who either bore the load himself or else employed a bullock, being known as a *bhistie*—has been definitively condemned in all British cantonments and is gradually to be replaced by a system of distribution through pipes. It is to be hoped that this valuable and urgent measure will be executed thoroughly and with the least practicable delay. Our soldiers while on foreign service are entitled to the best possible water-supply wherever they may be quartered. While this radical change is being carried out it will be highly interesting to note the effect, if any, upon the health of the men at the various stations, particularly with reference to the incidence of enteric fever among young recruits.

While on the subject of sanitation and water we are naturally led to consider the ships whose home is upon the unstable element; but here, too, the amount of sanitary progress compares unfavourably with the advance upon *terra firma*. As a human habitation a ship lends itself to the requirements of hygiene with far less readiness than does a house. To begin with, space has to be economised to the uttermost, a powerful bias in favour of overcrowding being thus created *ab initio;* and next, the problem of ensuring adequate ventilation is infinitely harder of solution afloat than ashore. The greater part of a vessel's hull being submerged it follows that natural ventilation alone can never produce a sufficiency of pure air. Artificial means must perforce be had recourse to in addition and, generally speaking, there is ample room for improvement in the crude methods at present universally in vogue. Whether an intake for fresh air at or near the lowest part of a ship's hold be feasible or not there has never, so far as we are aware, been any attempt to test the point on a large scale and probably such a thing as a thoroughly ventilated bilge does not exist. Refuse in a ship is mostly got rid of overboard, but a certain amount of putrescent matter must necessarily find its way into the lower regions where the stagnation and dampness of the air, especially in hot climates, speedily complete the putrefactive process and

prepare a fertile nidus for specific germs. There is doubtless as much difference between an "ocean greyhound" and an "emigrant tramp" as there is between a palace and a tenement lodging-house, but in either class of vessel the atmosphere between decks during rough weather when the ports have to be closed must under existing conditions prove more or less favourable to the spread of infectious disorders. In the genesis of disease there are no more potent factors than overcrowding and defective ventilation, and having regard to its predominant magnitude it would be impossible to overestimate the importance of an efficient control over both these morbific agents in our mercantile fleet. Some attention has recently been directed in the public press to the dangerous practice of placing phthisical patients and healthy persons in the same cabin during long voyages, but although the matter is well worthy of consideration, and indeed calls for immediate action, in reality it is merely a sub-section of the vast question of tuberculosis which is now being discussed on all sides at home and abroad.

From a landsman's point of view it is not likely that sea-going travellers will ever be given a sufficiency of cubic space in their berths, but under the restrictive influence of the Board of Trade officials overcrowding has become much less common than it once was. That passengers in excess of the authorised scale are still occasionally admitted under the British flag is, nevertheless, apparently true. According to a Reuter's telegram a steamer named the *Lake Huron* arrived a short time since at Montreal from Batoum having on board 3000 Dukhobortsy emigrants. The vessel was detained in quarantine as there was one case of small-pox among the passengers and the Canadian Government was advised that 11 deaths from that disease had occurred during the voyage. There is no mention in the telegram of the number of persons attacked nor is it stated whether any cases recovered at sea, the voyage from Batoum having necessarily lasted a considerable time. It would be interesting to learn what hospital accommodation there is on the *Lake Huron* and whether that vessel carried a surgeon and was properly equipped with drugs and medical necessaries. If the premisses are exact it is evident that overcrowding must have been pushed to an alarming extent. On board the *Oceanic* (which is the largest steamer afloat) the maximum number of people who can be carried, including a crew of 450, is 2075, while in the sister ships *Campania* and *Lucania*, each of 12,950 tons burden, the total complement with a crew of 400 is only 1580.

THE penal business of the General Medical Council is always worth the serious attention of the members of the profession, yet practitioners who appear before the Council to answer charges of misconduct show that it is just this attention that they will not give. It is probable that if it were otherwise the few cases in which the Council is called upon to exercise its judicial functions would be fewer still. It is a terrible thing for a medical man to have his name erased from the Register. The severity of the punishment is not easily realisable by those who do not incur it and by those who have not to inflict it. But its severity is increased terribly when it cannot be reversed, and it is much more easy to take names off the Register than to restore them. There are, no doubt, men in the profession who are unfit to be in it and who are incapable of rising to appreciation of their duties and responsibilities. They are in a false position and when occasion brings to light their qualities, or their want of qualities, little regret is felt at the opportunity of purging the profession of them. But it would be idle to deny that such cases are only a small proportion of those in regard to which the Council is asked to exercise its disciplinary powers, and that if it is to use these powers with justice it must use them also with discrimination. It must make differences and punish with a sense of proportion, otherwise there will be a reaction under which the power of punishing even the worst cases will be much criticised.

The cases which came under the judicial notice of the Council at the last meeting were in many respects exceptional. In four cases the Council instructed the Registrar to remove the names from the Register. It is noticeable that in only one of these cases was the practitioner charged with having employed an unqualified assistant. This offence is becoming decidedly rarer than it was. Surely, if slowly, the intention of the Council has permeated the profession, and any practitioner henceforth found guilty of the employment of an unqualified assistant for responsible medical work will have only himself to blame for the result. In the other cases the forms of offence were unusual and not likely to be often repeated. In one case a member of the profession was charged with having aided and assisted an unqualified person to procure himself to be registered under the Medical Act of 1858, and with having aided and assisted the said unqualified person to assume the position of a duly qualified and registered medical practitioner and to carry on medical practice as such. The accused in vain sought to convince the Council that he had acted in good faith in certifying to the identity of the unqualified person in question, a man who had personated audaciously a practitioner whose name had been removed from the Register under the fourteenth section of the Act; the Council found the charge proved and ordered the erasure of the name of the practitioner who had given the certificate of identity. We trust that this offence will remain, what we believe it to be, a unique one. In another case where the Council ordered the erasure of the practitioner's name the offence was almost equally unusual. He was charged with failing to make an adequate post-mortem examination of the body of a child on the order of the coroner of his district, and with having subsequently deposed before the coroner—contrary to the facts—that he had made a careful and complete examination of the organs of the deceased child. The case was gone fully into by the Council who found the charge to be sustained. The practitioner in question had been already tried on a charge of perjury which had been dismissed by a magistrate as a dispute between medical men. Before the Council the charge of perjury was not raised, but only the professional conduct of the accused practitioner, who was proved not to have opened the cavities of the body in any adequate or recognised way and who said openly in the Council that he could examine organs without seeing them. It is difficult to understand a medical man taking such views of his professional duty, and

the Council could not have come properly to any other decision than the one at which it arrived. In a third case the Council ordered—for the second time—the erasure of the name of a practitioner who had associated himself with an unqualified person; it was shown that he assisted in and was party to attracting practice by public advertisements; and that he had violated the undertaking given by him to the General Medical Council in 1895 on the faith of which he was restored to the Register.

Perhaps the case which most deserves the attention of the profession is that of Dr. WILLIAM STEWART of Denton, near Manchester, registered as M.D., Mast. Surg. Univ. Irel., who was complained of by the council of the Ashton-under-Lyne District Medical Society in relation to the Denton and District Provident Dispensary, by which he (Dr. STEWART) is engaged. The complaint was that he was associated in practice with an unqualified person named BURGESS, whom he permitted to carry on medical practice, being party to his administering medical aid and treatment to patients as if he were a duly qualified medical man. Evidence was adduced to show that in one case at least BURGESS had administered chloroform. This was denied by Dr. STEWART who said that BURGESS was only a dispenser. He admitted that BURGESS, who had completed a curriculum, attended operations done by him, but he asserted that practically all that BURGESS did was to clean the instruments after the operations. The accounts of the work done and of the number of patients seen in the dispensary seemed to make it difficult to understand that BURGESS was restricted to mere dispensary work, and in some of the reports of the dispensary he was described as Dr. STEWART'S medical assistant. The Council took a serious view of Dr. STEWART'S position, but after one and a half hours' deliberation resolved to hold the case over for further consideration in November. The position of a registered practitioner attempting to work single-handed in circumstances where patients are so numerous is very unsatisfactory. He may not literally sanction any illegitimate practice by the dispenser, but he gives it a moral sanction and the Council cannot well be blamed for holding him responsible for it; and that it did so is shown by the non-dismissal of the case. We trust that when November comes Dr. STEWART will be able to satisfy the Council that the work of the dispensary is conducted on principles above suspicion. Meantime all practitioners will do well to note how seriously they may be compromised by doubtful associations.

Three cases for restoration were prepared for the Council by the Executive Committee but in only one was the restoration ordered by the Council. As we have said, the process of restoring a medical man to the Register may be attended with difficulties. The nature of these difficulties may be gathered from the various interim reports of the Executive Committee on the disciplinary powers of the Council. They call for the gravest and the earliest attention of the Council and we are glad to know that the PRESIDENT is giving much personal attention to the subject. The penal powers of the Council will inevitably—and to some extent with justice—fall into disuse if the power of the Council to restore names to the Register is not made as easy to exercise as is their power of removing them.

Annotations.

"Ne quid nimis."

THE RESPONSIBILITY OF THE BRITISH EMPIRE IN THE MATTER OF THE INVESTIGATION OF DISEASE.

THE extremely interesting remarks made by Mr. Haffkine at the dinner of the Epidemiological Society—an account of which our readers will find in another column—bring home to us as a nation the enormous responsibilities which devolve upon us as recorders and investigators of the behaviour and distribution of epidemic and endemic diseases throughout our great empire. "It so happened now," Mr. Haffkine observed, "that in whatever part of the world an epidemic of any magnitude broke out—except when epidemics broke out on the continent of Europe—it was sure to affect a British possession. In this case, as in others, honour and burden and obligation remained inseparable; and if it has come to be that among nations that of Great Britain is the first in trade, expansion of dominion, rule over civilised and uncivilised races, the world must expect that that country will be the first as far as knowledge of, and provision for, the health and safety of mankind are concerned." These are weighty and, in a sense, ominous utterances, and they lead us to wonder whether when the history of the British Empire comes to be written it will be doubtless viewed from aspects not exclusively martial—posterity will agree that in this matter of scientific investigation Great Britain has carried out the duties which so obviously devolved upon her. Certainly her opportunities and facilities are unique in the world's history, and no other nation which has so far come into being has had at its disposal all the agencies for scientific investigation which are fortunately our servants to-day. With our naval and military medical departments, our Indian Medical Service, and our colonial medical officers we have at our disposal a machinery which should certainly yield substantial results. But the questions at once arise—Is this machinery being worked in the best manner? and is there not need of a chief engineer, as it were, who would coördinate all these various forces and focus them to a more useful issue? When our future historian takes stock of the budget of the day will he be satisfied with the amount expended annually on the investigation of disease in the several parts of our great empire? Will he not rather lament the poverty of the harvest in relation to the multitude of the labourers?

THE FOOD AND DRUGS ACT AND THE NEW LONDON BILL.

SOME changes in the administration of the Food and Drugs Act as regards the metropolis must inevitably take place when the new London Bill comes into operation. It is probable that with the advent of this new municipal scheme a new Food and Drugs Bill will see the light. In some instances it is proposed to merge smaller districts into one large district as in the case of Westminster. This area comprises several vestries each having their duly appointed public analyst. Will these several offices cease and the work under the Food and Drugs Act be conducted by one official? or will the area be divided, so to speak, into analytical districts in accordance with the present *régime?* In that case it may be assumed that a chief analyst will be appointed with deputy officers. Then there is the inspector. Will there be one or more inspectors relegated to the task

of procuring samples? Many offices in connexion with vestry organisation will be necessarily abolished and new ones created, but how will the public analyst stand who serves at present in a district which is to be absorbed by a larger and newly created area of administration? He will be naturally anxious to know whether his services are to be retained and if not what measure of compensation will be dealt out to him. The question is not only of importance to him, but to the community also in its bearing upon the better or worse administration of the laws controlling the purity of food. But there appears to be no definite authentic information to hand on these points. We venture to think that it would be a pity to disturb the present organisation and that the best plan would be, as we have already hinted, to retain the offices of the analysts of the several districts which it is proposed to expand into one large district and place them under the authority of a senior officer.

THE BAZAAR IN AID OF CHARING-CROSS HOSPITAL.

THE magnificent bazaar which was held last week in the Albert Hall in aid of Charing-cross Hospital has produced, we understand, upwards of £15,000. It was the most perfectly managed and sumptuously contrived bazaar that London has seen for many a day. The whole fashionable world attended, some of the most beautiful and most talented women played at being shopgirls, and the general spirit manifested was one of entire generosity, the buyers giving their money without the least regard for the intrinsic value of the articles obtained in exchange. A magnificent volume, a souvenir of the bazaar, was on sale in the hall nominally for 10*s.* 6*d.*, but really for any sum up to £10, and it is but little exaggeration to say that it was worth the higher figure. Charing-cross Hospital is in urgent need of £50,000 to complete the enlargement of its out-patient department and the construction of new accommodation for the nurses, and the substantial way in which the bazaar at the Albert Hall was supported will cheer the spirits of those responsible for the hospital's finances.

THE FLUOROSCOPE IN MEDICINE.

THE use of the Roentgen rays has hitherto been mostly confined to surgical examinations, though we have recorded in THE LANCET some cases where the alterations in the density of tissues in the progress of disease have produced marked change in their opacity to these rays. The movements of the heart and lungs with which the physician is so much concerned have not received much elucidation in this way, there being no skiagraphic process analogous to instantaneous photography. But Dr. F. H. Williams of Boston, U.S.A., has for the last two years been working with great success at the application of the new art to the clinical examination of the thorax, and he finds that fluids, whether blood or serous effusions, have great power of resisting the passage of the rays; and that by employing an open fluoroscopic screen and by tracing thereon the outlines of the shadow, the form and position of organs can be exhibited, and those of the heart in systole and in diastole and of the ribs or diaphragm in inspiration and expiration respectively may be traced in outline and afterwards copied on to paper for future reference. The different degrees of transparency in the lung are, he finds, due to the greater and less amount of blood, not of air, in the stages of expansion and contraction, for no such difference was shown by inflated and collapsed lungs removed from the body; and the opacity presented by portions in which tuberculisation was going on in its early stages, while as yet undiscoverable by percussion, was doubtless to be ascribed rather to the local congestion than to the infiltration. He was able by this means to see and to trace the extent of a pleuritic effusion imperceptible by ordinary methods, and in a case of pneumo-hydrothorax to see the waves following the heart's movements and the splashing produced by succussion. Of most interest perhaps was his demonstration of aneurysms which were not only unsuspected but the symptoms of which were erroneously explained; in one case an assumed stricture of the œsophagus had been treated by the passage of bougies to the imminent danger of the patient, in another an operation had been performed for supposed intercostal neuralgia, and in a third the proposed administration of digitalis was abandoned on the detection of a commencing thoracic aneurysm. In pleurisy the presence of effusion may be seen before it can be determined by physical methods and after these have ceased to afford evidence of its persistence, and the same was the case with pneumonia even after the patient had been discharged as cured. Pleuritic adhesions in themselves are not visible by the fluoroscope, but may be inferred by the consequent restriction of the movements or, as Dr. Williams calls them, the "excursions" of the diaphragm, as may be also the existence of emphysema, in which, too, as in the presence of adhesions, the movements of the heart are interfered with. Pericardial effusions, dilatation, hypertrophy, and the atrophy of the heart accompanying some forms of anæmia are easily seen, as may be the enormous enlargement of the left ventricle in aortic insufficiency. Lastly, the passive congestion or œdema of the lung in diseases of the kidney as well as of the heart, as shown by the fluoroscope, may give timely warning of danger to life previously unsuspected. The observations are best made under identical conditions secured by placing the patient on his back on a stretcher supported on a frame attached to the x ray machine, the points on the anterior or the opposite posterior aspect of the body towards which the Crookes tube should be directed being determined by the intersection of a median fixed line and a weighted cord laid across the chest at the level of the fourth rib, or by a special self-balanced frame and plumb-line devised by Dr. Williams. The Crookes tube must be encased in black velvet and every ray of light must be excluded from the room. The screen, a plate of clean glass, smooth or ground, is placed against the patient's body and the image is traced thereon. The accuracy of the adjustment obtained by the arrangement recommended may be judged by the fact that in two observations, between which the patient walked about and the tube was removed, the tracings differed by no more than the width of the lines themselves. A permanent skiagram of a typical normal heart, ribs, &c., should be kept at hand for comparison.

A NEW DEPARTURE IN POST-GRADUATE INSTRUCTION.

LAST year it was suggested by the Victoria University Extension Committee that a useful work might be done by arranging to deliver in certain local centres post-graduate courses in medical science and the allied sciences. The Chester Medical Society hearing of this took advantage of the proposal and invited Dr. Sheridan Delépine, Procter Professor of Pathology in Owens College, Manchester, to deliver in Chester a course of lectures on clinical bacteriology. Five lectures have now been given and have been attended by about 30 members of the profession from Chester, Wrexham, Crewe, Whitchurch, Frodsham, and other neighbouring towns. In his opening lecture Professor Delépine said:—

"The object of this new departure in university extension is to make it possible for medical men in busy practice to obtain from time to time practical information regarding recent developments of medical science. Many of them are unable to absent themselves for several hours weekly in order to take advantage of post-graduate courses given for their benefit in university centres, and reading alone

does not always convey a complete idea of new discoveries. The Victoria University Extension Committee have therefore considered it desirable to meet this difficulty by organising courses intended to fulfil the requirements of medical men who are not able to take advantage of the facilities offered within the various colleges. The new scheme was finally adopted about the middle of last year. Thanks to the action of the Medical Society of Chester, and more especially to the interest taken by its president in this matter, Chester is the first town, as far as I know, which has taken advantage of this new arrangement. After consultation with Dr. Henry Dobie I came to the conclusion that such a course ought to be a practical one and ought to consist of a series of descriptions of special diseases selected with a view to make clear the various ways in which bacteriology has proved useful in medicine and surgery. It must, however, be understood that these diseases are only types and that they are used as concrete examples of the application of principles."

DEFERRED LEGISLATION.

THE Government have an enormous programme to get through before the recess and it is doubtful whether several important matters discussed this session will stand any chance of becoming law. Indeed the Midwives Bill is already dead and it is probable that other Bills of interest to our readers will be shelved. In his statement in the House of Commons last week Mr. Balfour did not even mention the Companies Bill, while he confessed to being quite ignorant of the promise which had been made to introduce a new Petroleum Bill. He, however, expressed a hope of passing the new Sale of Food and Drugs Bill, as considerable progress had been made with this Bill in Committee. It is pretty safe to say that this Bill will give rise to considerable discussion in the Commons and therefore the prospects of the measure becoming law this session are remote. Lastly, nothing has yet been definitely done in regard to the continued indiscriminate sale of carbolic acid. A question on this subject was asked in the House on June 23rd by Sir John Leng and the Home Secretary replied that the gain to the public would not be commensurate with the inconvenience arising from the restrictions. On the whole, therefore, there is little hope for serious attention being devoted to several important subjects of medical interest around which considerable and highly animated discussion has been waged in the press and at public meetings.

SEWER AIR AND ITS DANGERS.

A FEW months ago two men met with their death whilst working in a sewer in Manchester.[1] The cause did not seem to be discovered at the time but it was thought to be the turning of some deleterious matter into the sewers from chemical or other works in the neighbourhood. On June 5th three men lost their lives in a catch-pit on the Wigan outfall sewer. One of these men had been following this kind of work—namely, emptying the catch-pits of sediment—for 18 years. Although instructions had been given to this man years ago to take off the cover some time before going down and to put down a lighted candle to see if it would burn these precautions appear never to have been taken. A few days after the Wigan fatality a man lost his life in a sewer at Rochester. At the inquest on the Wigan victims held by Mr. Brighouse, county coroner, it was stated in evidence that a gang of six men were directed to clean out the catch-pits which are on a line of the outfall sewer for about three miles in length. These catch-pits are for the purpose of catching the sediment or silt which gets into the sewage and they are cleaned out periodically every six or seven weeks or even at longer intervals. On the morning of the accident (June 5th) two men went to No. 1 catch-pit, took off the cover, and emptied it out. The practice is that one man descends and fills the bucket whilst the other hoists it to the top. Two other men went to catch-pit No. 2 and two to No. 3; this went on alternately till catch-pit No. 6 was reached, where one of the men, who was 63 years of age, on descending appeared to have been overpowered by gas or vapour, for he fell into the sewage and a fellow workman going down to help him out was overcome in the same manner. An alarm was raised and the two men who were going to No. 7 catch-pit returned; one of these descended No. 6 catch-pit and met with a similar fate. A collier now went down to place a rope round the men, but he also was overpowered and had to be brought to the surface with a boathook. Dr. Stirling of Standish was soon on the spot and with artificial respiration and restoratives the collier eventually recovered. The other three men were quite dead. The gas in this catch-pit rapidly overpowered its victims. Why it should have been in this particular catch-pit (No. 6) and not in the five others it is difficult to say, for there is nothing between catch-pit No. 5 and No. 6 that would allow anything deleterious to be admitted. The medical officer of health (Mr. W. Berry) was called to give evidence and he expressed the opinion that the gas was carbonic acid gas, that through some special cause it was generated in this No. 6 catch-pit, and that the following precautions should be adopted in future: (1) taking off all the covers first; (2) allowing a reasonable time to elapse before going down; (3) pouring limewater into the catch-pit and stirring the contents; and (4) lowering a lighted candle to see if it will continue burning or not. These suggestions met with the approval of the jury, for they returned a verdict of "Accidental death," not attaching any blame to the corporation. They also recommended that the corporation should take steps in the future to ascertain whether the sewer and catch-pits were free from noxious gases previously to the catch-pits being cleaned out and thought that the suggestions of Mr. Berry should be carried into effect. The sanitary committee of the corporation have since "referred the question of emptying these catch-pits to the medical officer of health and the borough engineer for consideration and report as to whether any, and if so what, means can be adopted to have the work carried out without any risk to life or danger to health."

[1] THE LANCET, Dec. 24th, 1898, p. 1722; Jan. 28th, 1899, p. 265; March 18th, 1899, p. 771.

CHIROPODY IN COSTUME.

TWO cases have recently been heard by Mr. De Rutzen at Marlborough-street in which women were charged with keeping disorderly houses under the pretext of massage, manicure, and chiropody. Both were eventually dismissed by the magistrate and we do not propose to discuss the evidence which he very properly did not consider sufficient to make it incumbent upon him to convict. It serves, however, to remind us that so-called massage establishments are in many instances simply brothels and that it behoves the police to watch them carefully, not only in the interests of order and morality, but because respectable but imprudent persons visiting them in the belief that a course of treatment is really administered may find themselves in a position extremely favourable to the levying of blackmail. In addition to this we may point out that although a medical rubber who can produce the certificate of a medical man (as one of the women charged in the cases referred to declared herself able to do) commits no illegality in describing herself as a nurse on her door-plate or in wearing a nurse's dress in public, neither act is by any means essential to her position and occupation. A nurse both when actively engaged on her duties and when out of doors wears a uniform which the hospital or institution to which she belongs prescribes or which for obvious reasons it is expedient that she should wear, but if

we believe it to be unnecessary for a lady to don it in order to administer massage at her own residence we must protest that it is wholly superfluous as an adjunct to the cutting of corns and toenails. The extent to which the name of "nurse" is abused to the injury of an honourable calling has been obvious to everyone from the "sandwich" boards which till recently were to be seen in the Haymarket and other thoroughfares, and from certain advertisements. Both have now to a large extent disappeared, and it is to be hoped that the public will realise that the medical man is the proper person to recommend both massage and the establishment in which it is to be sought.

THE EXPEDITION OF THE LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

THE expedition which the Liverpool School of Tropical Medicine and Animal Parasitology proposes to send to Africa in August will, as we have already announced, probably consist of the lecturer and demonstrator of the school (Major R. Ross, I.M.S., and Dr. Annett respectively), and possibly an experienced dipterist. The locality chosen will probably be Sierra Leone, on account, chiefly, of its proximity. The object will be confined to ascertaining whether there is any prospect of exterminating malaria bearing mosquitoes from a small area. Major Ross and Dr. Annett will return in October for the home work of the school, but if sufficient funds are forthcoming investigators will be left behind to continue their work and they themselves will probably go back early next year.

WEST LONDON HOSPITAL DINNER.

THE "Past and Present Members of the West London Hospital" gave a successful dinner in the Empire Room of the Trocadéro Restaurant on June 22nd. Mr. C. B. Keetley occupied the chair. The invitations were issued to meet Professor Osler, F.R.S., of the Johns Hopkins University, the President of the Royal College of Physicians of London (Dr. Church), the President of the Royal College of Surgeons of England (Sir William Mac Cormac, Bart.), and the Director-General of the Medical Department of the Royal Navy (Sir H. F. Norbury, K.C.B.). Amongst other distinguished guests were Professor Anderson of Toronto, Sir William Broadbent, Mr. G. Doughty, M.P., and Surgeon-General R. Harvey, C.B. (Director-General of the Indian Medical Service). After the toast of "The Queen" had been duly honoured Dr. Church, the President of the Royal College of Physicians of London, proposed the toast of "The Navy, Army, and Auxiliary Forces," to which Surgeon-General Harvey responded, drawing attention to the special varieties of medical practice offered by service in the Indian Medical Service. "The West London Hospital" was proposed by the chairman who referred to the growth of the West London Hospital, and more especially to the Post-graduate teaching which has now become such a feature of the establishment. Dr. Drewitt, in reply, remarked on the difficulties against which the hospital had to contend in the past, but said that now all the component parts of the hospital worked together for the good of the patients. Dr. Seymour Taylor proposed the health of "The Visitors," coupling with it the names of Professor Osler, Professor Anderson, and Mr. G. Doughty, M.P. Professor Osler replied, his speech being markedly patriotic. He maintained that the safety of the British Empire depended upon the union of Britain with her colonies. In the United States all feelings of hostility to England had ceased and the educated Americans more especially looked towards the mother country with feelings of great affection. In the United States and Canada the condition of the medical profession was never more satisfactory and improvement had been especially marked in the matter of medical education. The developments in the medical schools had been great and much money had been spent in affording means for original research and the higher medical studies; a medical school could not make much progress if unendowed. Professor Osler also emphasised the extraordinary facilities which London possessed for post-graduate study and advised all general practitioners to refresh their minds by attendance at post-graduate courses. Professor Anderson said that the post-graduate schools would be greatly appreciated by Canadian graduates. The bond of union between the members of the medical profession in Canada and England had been greatly strengthened by the meeting of the British Medical Association in Montreal and he hoped that ere long the Association would pay Toronto a visit. Mr. G. Doughty, M.P., also replied. Mr. Swinford Edwards proposed "The Past Residents and Post-graduates." Mr. W. H. Brown replied for the former and Colonel Allin, R.A.M.C., for the latter. The health of "The Chairman," proposed by Dr. J. B. Ball, and that of "The Honorary Secretary" were received with acclamation. The dinner was organised by Mr. L. A. Bidwell, the Dean of the Post-graduate School, and that gentleman must be heartily congratulated on the success of the evening. Between the speeches music and recitations made a pleasant change.

MASSAGE AND GALVANISM IN GOUT.

IN the *Boston Medical and Surgical Journal* of June 1st Dr. D. Graham calls attention to this mode of treatment. A man, aged 51 years, had been reduced in weight from 325 lb. to about 200 lb. and was confined for three weeks to his room with gout. The outer aspect of the left ankle was swollen, hot, tender, and indurated; the left wrist was similarly affected. The foot and hand were œdematous. Previous attacks extended over a period of 28 years and were characterised by heat, pain, and swelling of the metatarso-phalangeal joint of the left great toe. General massage was performed in the morning and special massage of the affected joints in the afternoon for five days when he was evidently improving. On the fifth day after the massage of the swollen parts galvanism, 5 to 10 milliampères, was applied with the negative pole over the affected region for a few minutes. The effect was at once evident in the lessening of the induration and the dispelling of the œdema and congestion; the galvanism being followed by a few minutes' massage to hasten absorption the result was much better. This treatment was continued every day and on the seventh day (two days after beginning galvanism) the patient was taking steps without crutches and two days later was walking. When the treatment was begun the usual remedies had been exhausted.

JENNER INSTITUTE OF PREVENTIVE MEDICINE.

THE annual general meeting of the Jenner Institute of Preventive Medicine was held at Chelsea on June 23rd, and we are very pleased to find that the present position of the Institute is satisfactory and that its future is full of promise. The internal fittings of the Chelsea building are now completed with the exception of the museum and the various departments are fully equipped and at work. The Local Government Board has commenced the preparation of glycerinated calf lymph in the laboratories rented from the Institute at Chelsea. The Jenner Memorial Committee having decided to transfer the funds in its possession to the Institute it was resolved that in order to perpetuate the memory of Jenner and his work the Institute should in future be termed the "Jenner Institute of Preventive Medicine." This change in title was effected on Dec. 6th, 1898. The meeting

received with enthusiasm the references made to Lord Iveagh's gift of £250,000 for the promotion of the objects for which the Institute was founded and the gratifying announcement was made that Lord Lister had consented to act as chairman of the new governing body which will in future control the affairs of the Institute. Reports were presented by Dr. Macfadyen upon the general work of the Institute during the year, by Dr. A. Harden upon the work of the chemical and water laboratory, and by Dr. G. Dean upon the antitoxin department. A number of investigations by Dr. Hewlett and others have been published during the year and a second volume of the Transactions of the Institute is going through the press. Many investigations of public importance have been carried out on water, milk, &c. The Institute is conducting the bacteriological examination of specimens for the Fulham Vestry, the Islington Vestry, the St. Pancras Vestry, the Holborn Vestry, the Lambeth Vestry, and other London vestries, and the bacteriological diagnosis of tuberculosis has been undertaken at the request of several sanitary authorities. The courses of instruction have been well attended; they are designed to train the advanced student with a view to subsequent research. The Hansen Laboratory for the study of the practical application of bacteriology to industrial and technical processes is now at work with Dr. G. Harris Morris in charge and is an important addition to the departments of the institute.

THE SMOKE NUISANCE.

IT is satisfactory to find that the recently inaugurated movement to suppress the smoke nuisance in London is not likely to languish. Indeed, several important convictions under the Public Health Act have been obtained which should serve to make all those employing coal on a large scale more vigilant than heretofore. It is odd that public opinion has only recently awakened in this matter and we may include ourselves amongst those who initiated this very desirable crusade. In proof of this we need only refer our readers to the columns of THE LANCET in the year 1896 in which again and again it was pointed out that while a section of the Public Health Act provided against the befoulment of the air by black smoke, yet on all sides a breach of this law was constantly being committed. We have had in the vicinity of our offices repeated ocular demonstration of the nuisance occurring on a really vile scale. Hotels and electrical works appear to be the chief offenders. Considerable stimulus to the movement for the abatement of smoke was, of course, gained by the fact that when Welsh coal could not be obtained on account of the "strike" the ordinary bituminous coal had to be used which soon exposed defects in the furnaces, dense volumes of smoke being evolved. We are pleased to find that some of the London magistrates, who maintained formerly that the offenders were handicapped in not being able to obtain smokeless coal, have altered their views on this question. As we have more than once pointed out, the Act says nothing about smokeless coal, but rather that the furnaces should be so constructed as to allow, no matter what fuel is used, the smallest possible escape of smoke. In the case of the complaint recently made by the Vestry of St. Martin's-in-the-Fields against the Charing-cross and Strand Electric Supply Corporation it was admitted that at the company's works at Lambeth the difficulty had been overcome by the use of different boilers and a forced draught. That being so Sir James Vaughan properly concluded that if the company had succeeded in abating the nuisance at one place they must be able to do so at another—viz., at the installation in Maiden-lane. The defendants were fined and were ordered to pay costs, Sir James Vaughan remarking that they should make an effort to abate the nuisance and the non-success of this effort would be the best answer to any future summons.

THE PONTA-DELGADA HOSPITAL.

THE hospital of Ponta-Delgada, the capital of the Azores, those remote and so far as English visitors are concerned little frequented islands, having lately received some munificent donations and bequests, including a gift of £16,000 from Senor Nunez da Silva, has been enlarged and improved in accordance with the requirements of modern hygiene. It now contains 300 beds distributed between seven wards of which three are for men and three for women while the seventh (with 14 beds) is used provisionally for lunatics. The operating theatre, which was built in 1895, stands apart in a garden and is thoroughly well equipped in every respect. The walls are cemented, the floors are accurately tiled, and all the woodwork is lacquered. Hot and cold water are laid on in abundance and stoves and sterilisers of the newest pattern are largely in evidence. All the instruments and appliances have been procured from France. The staff consists of four medical officers, one assistant medical officer, and a non-professional "director." Since 1895 Dr. Bruno, the surgeon-in-chief, has performed 90 major operations and so great has been his success that patients come to him to be operated on from all the other islands of the group, of which the population is over a quarter of a million. São Miguel, the principal island, which is of about the same size as Madeira (300 square miles), resembles that well-known health resort in being mountainous and picturesque and also in producing wine, fruits, and flowers in great profusion. The climate is said to be humid, but accurate meteorological observations are wanting.

THE SEWAGE-FED ORWELL ESTUARY.

THERE are few estuaries in this country which possess a natural beauty in excess of that of the Orwell in Suffolk, and at high water a sail from Harwich to Ipswich is in a high degree enjoyable. The banks of the estuary are richly wooded and the glimpses which are here and there afforded of village churches nestling amongst the trees may recall to the tourist even the beauties of the Devonshire Dart. At the end of his voyage there is, too, the old and interesting town of Ipswich fraught with memories dear to all lovers of Dickens. Unfortunately, however, the hand of man is, if not actually seeking to minimise the natural charms of the estuary, at least doing nothing to maintain them, and as at or near low tide the tourist approaches Ipswich he is painfully impressed with the fact that, large and enterprising as is the town, those who are appointed to be the guardians of its public health exercise but little concern as to the disposal of its sewage. From the reports which from time to time reach us it is difficult to gather what is the exact method of sewage purification which is adopted, but we should certainly, judging by the results, not be surprised to hear that coarse screening was the only precaution taken against the gross pollution of these lovely river reaches. At any rate, the "effluent," if such it may be termed, which is let out on the ebbing tide is painfully apparent both to the ocular and nasal sense and may be detected at a considerable distance from the outfall. It seems to us to be a very great pity that a town of the size and wealth of Ipswich, returning as it does two members to Parliament and possessing on its council men of great ability and wealth, should be thus careless of its well-being. Ipswich should surely take some trouble to spare the inhabitants and those who visit the town this sewage nuisance, and should make it possible for those who seek health and pleasure on the waters of the Orwell to do so without this

obvious discomfort. If no adequate means of disposal can be devised in connexion with the present storage tanks it is surely obligatory upon the town council to consider the desirability of taking the sewage further down the estuary towards Pin Mill where there would be perhaps a better chance of getting rid of the sewage in a greater volume of water.

DISEASES OF THE CAT'S EYE.

THE diseases of the eye in treatises and journals devoted to veterinary subjects are, as a rule, very superficially discussed, but an exception must be made in the case of a well-written article on the diseases of the cat's eye by Mr. Henry Grey, M.R.C.V.S., in the *Ladies' Kennel Journal*. It is remarkable that injuries and diseases of the eye in these animals are not of more frequent occurrence when we take into consideration the pugnacious disposition of the males, the formidable claws with which they are provided, and the swiftness with which the animals can use their limbs in striking a blow, as well as their habit of sleeping on the ground, where they must be exposed to the attacks of numerous micro-organisms. The nose is, however, buried in the fur during sleep, which may perhaps serve as a protection against the entrance of parasites, whilst the toughness of the cornea, the presence of a membrana nictitans, and the resistant as well as recuperative powers of the conjunctiva serve as additional preservatives from lesion. Mr. Gray has observed ringworm, mange, or follicular scabies in the eyelids, inflammation of the haw or membrana nictitans, abscess in the orbit, fistula, conjunctivitis, simple follicular and granular keratitis, corneal ulcers and their sequelæ, nebulæ and sarcomata, and cataract. Iritis and glaucoma are not mentioned, though they are sometimes observed, but Mr. Gray has seen sympathetic ophthalmia. He speaks also of strabismus in the cat and states that it is usually convergent and he has tried, though not apparently with any success, the introduction of false eyes after removal of the globe. The treatment recommended by Mr. Gray, which is generally either mildly stimulating or emollient, seems to us to be very sensible.

JOHN DALTON'S TOMB.

THE more intelligent of the people of Manchester are proud that their city was once honoured by being the dwelling-place of John Dalton, and indeed his name is known even to the ignorant and non-intelligent, for a street has been called after him. This street, fortunately, is near the town-hall, so that most members of the city council must have seen the name of a great man who once lived among them. But it is not held in honour, if we may judge by the action, or rather the inaction, of the Town Hall Committee of the corporation. The Literary and Philosophical Society with which Dalton was closely connected suggested recently that his tomb in the Ardwick Cemetery should be kept in repair by the corporation. The society is not a wealthy body and it was natural to appeal to the corporation of the city which has derived so much lustre from having been the city of Dalton. But the Town Hall Committee replied "regretting that it is unable to entertain the proposal, as to do so would create an undesirable precedent." From this reply it is evidently supposed that such men of genius abound and that the resources of the corporation would be strained, if not exhausted, if they undertook to keep in repair the tombs of all the coming Daltons. For this one tomb the number of pounds, or perhaps only shillings, that would be required annually could not be great and so far as present evidence is available the fear of a superabundance of men of genius in Manchester is one that need not be entertained. We may surely hope, therefore, that the corporation of this city of 500,000 or 600,000 people may take courage and not be afraid to guarantee that the tomb of her most illustrious citizen shall be preserved from decay.

PNEUMOTHORAX AS A COMPLICATION OF PNEUMONIA.

AT the meeting of the Société Médicale des Hôpitaux, Paris, on June 2nd, M. Antony described a case of pneumonia in which this very rare complication occurred. A young robust soldier, aged 22 years, had pleuro-pneumonia of the right base. Intense tubular breathing was present and the sputum was characteristic and contained the pneumococcus. On the fifth day the breathing began to assume an amphoric character which gradually became more marked. On the seventh day in the inferior half of the thorax there were dulness and absence of respiratory sounds; in the middle amphoric breathing was heard everywhere. Hippocratic succussion was obtained. On the ninth day the heart was considerably displaced to the left and the dyspnœa necessitated thoracentesis; 1100 grammes of sero-fibrinous fluid which contained the pneumococcus in pure culture were removed. Empyema followed which was treated by aspiration and later by resection of ribs. The patient died exhausted by suppuration three months after the onset of the pneumonia. Repeated examinations always revealed the pneumococcus, but never the tubercle bacillus, in the pus and expectoration.

THE DANGERS OF A BRIGHT BICYCLE LIGHT.

BICYCLES everywhere are now lighted with an acetylene flame which is extremely brilliant and dazzling, so much so as to be a menace to the safety of the public. When it is borne in mind that the acetylene light is over 200 candle power it is not difficult to understand a horse upon which the rays are suddenly directed shying and thus perhaps initiating a series of disasters. Indeed the rapid approach from behind of a brilliant light unheralded by the noise of the moving vehicle or of the revolution of wheels is sufficient to shock any person albeit endowed with a tolerable amount of nervous stability on a country road on a dark night. The acetylene light is undoubtedly a source of danger in this way and proof of this has appeared in the daily papers. Only this week a man was knocked over and killed by a bicycle driven by three persons. The machine had on it a large acetylene lamp. In returning a verdict of "Accidental death" the jury added an expression of their opinion that the deceased was perfectly sober at the time and that he was dazzled by the bright light of the lamp on the cycle. It would appear therefore that some limit should be placed upon the degree of brilliancy of a light used on vehicles on the public road. Acetylene gives a splendid light, but regard must be paid to the public safety and comfort. The rays from the lamp should as far as possible be focussed and not be allowed to diverge widely. The cyclist carries a lamp not that he may see others, but chiefly that others may see him. Indeed, the majority of cyclists would probably prefer to ride without a light at all; it assists the rider very little to escape obstacles or bad patches and, indeed, may even confuse him. Something surely could be arranged to keep the acetylene light within bounds and to render it less dazzling.

THE USE OF GLYCERINATED CALF LYMPH: THE PRACTICE OF THE LOCAL GOVERNMENT BOARD.

THE question of the "keeping" qualities of glycerinated calf lymph was discussed by us last week[1] when we pointed out the necessity for watchfulness on the part of the manufacturers. The Government lymph is not issued directly it has been glycerinated, but is kept for several weeks during

[1] THE LANCET, June 24th, 1899, p. 1729.

which it is subjected to culture and other tests with a view to the avoidance of harmful organisms. The question of temperature is also in all probability involved, for in some countries the issue of lymph prepared and kept after the manner adopted by the Local Government Board would appear to be suspended during very hot weather. It has been sought by the Government to avoid any difficulties which may be experienced as the result of too long storage by a notice which they send out with every sample of lymph to the effect that the quantity asked for should be no more than that which is required "immediately," and we understand that the department prefer to send fresh, small supplies every week to the same applicant rather than to send larger quantities to be kept for longer periods under all sorts of conditions of storage. Lymph which has for several weeks before issue been prepared with an aqueous solution of glycerine is best kept in the dark and at a low temperature and where these conditions cannot be maintained after its receipt by public vaccinators it is better to avoid storage for more than a few days. In other words, frequent applications for such quantities only as are immediately wanted are likely to lead to the best results.

LORD ROTHSCHILD, the President of the Royal Hospital for Diseases of the Chest, City-road, has contributed £100 towards the £1500 required to enable the charity to claim a conditional donation of £500. This conditional offer of £500 only remains open till July 17th, and as the receipts and promises amount to only £900 the authorities have a very literal reason for urging upon the public that he who gives quickly gives twice.

Mrs. May Dickinson Berry, M.D., B.S. Lond., and Dr. G. E. Shuttleworth have been reappointed for a second year by the School Board for London to examine defective children and children alleged to be defective, and to perform cognate work in the blind and deaf centres of instruction.

A MEETING of the Anatomical Society of Great Britain and Ireland will be held in the Anatomical Schools, New Museum, Cambridge, on Saturday, July 8th, commencing at 2 P.M. Gentlemen intending to be present should inform Dr. Barclay Smith, New Museums, Cambridge.

THE Queen will open the new wing of the National Hospital for Consumption at Ventnor during the autumn. The wing is named after the late Prince Henry of Battenberg and the foundation-stone was laid last year by Princess Henry of Battenberg.

THE distribution of prizes to the students of Charing-cross Hospital School is announced to take place on Wednesday, July 5th, at 3.30 P.M., by the Right Honourable the Lord James of Hereford, Chancellor of the Duchy of Lancaster.

DR. W. J. R. SIMPSON, Professor of Hygiene, King's College, London, has been nominated an Honorary President of the Thirteenth International Congress of Medicine to be held in Paris in August, 1900.

VISCOUNT and LADY KNUTSFORD will distribute the prizes to the students and nursing probationers of the London Hospital Medical College in the library on July 18th, at 4.15 P.M.

SEAMEN'S HOSPITAL, CARDIFF.—The fund for the building of the new seamen's hospital at Cardiff to replace the *Hamadryad* hospital ship is now £4200 short of the amount required.

THE DISCUSSION ON MR. HAFFKINE'S DISCOURSE AT THE ROYAL SOCIETY.

WE published last week a full report of Mr. W. M. Haffkine's Discourse delivered recently before the Royal Society upon Preventive Inoculation. The following interesting debate took place at the close of Mr. Haffkine's remarks.

Professor ROSE BRADFORD said that as Professor Wright had introduced the typhoid inoculations into England and had carried out a number of inoculations in India, and as Mr. Haffkine had in his address referred to the typhoid inoculations he would suggest that Professor Wright should be asked to give his views on the subject.

Professor WRIGHT having been invited by the President to join the discussion said that his position as a member of the Plague Commission bound him to silence. He could, however, say that the facts brought before the meeting by Mr. Haffkine were very brilliant. Whether the results of the inoculations were always so brilliant was a different matter. It was not for him to dwell on this aspect of the question at that meeting. This much he could permit himself to say, that if the results were less brilliant the question would arise as to whether Mr. Haffkine used the best methods to secure the best results. It did not appear to him to be of much importance that six natives more or six natives less died in a jail. What was really required was the acquisition of scientific knowledge in order that the inoculations might be applied to other infectious diseases. The address had not given them that information. He would have liked to have heard what was the effect on the system of the individual constituents—whether all were necessary and all equally harmless. Professor Rose Bradford had referred to his (Professor Wright's) work on the typhoid inoculations. He would say that in India he found that Mr. Haffkine's work had popularised the inoculations and in that way had facilitated the introduction of the typhoid inoculations, but no information as to the dosage or preparation of the vaccines had been given. He preferred not to publish the results hitherto obtained until some of the more scientific aspects of the subject had been worked out.

Surgeon-General R. HARVEY, C.B., Director-General of the Indian Medical Service, said that the people in England should consider the difficulties attending the work of a bacteriologist in India. It was only recently that there was no apparatus to sterilise the corks and bottles in which the vaccines were forwarded to their destination. The matters which Professor Wright referred to were being attended to in the Bombay Laboratory. The vaccines were being standardised and other problems connected with the inoculations were being worked out. All these things, however, required time. The Government of India had given Mr. Haffkine the assistance which he asked for and were prepared to grant him more. He had been inoculated himself and could therefore speak from personal experience of the effects of the inoculation. They were far from being pleasant and resembled in some respect being vaccinated in 16 places at one time. The uncomfortable effects did not last long. The fever disappeared in a day or two and the pain in the arm disappeared in the course of a week. He had no doubt as to the value of the inoculations. At Andhera he carefully examined the results of the experiment and so far as he could judge there was no possibility of error. The results in that experiment were such as to be 90 per cent. in favour of the inoculated against the uninoculated. The natives of India were, however, a strange people and it was difficult to prophesy how they would act. In Calcutta the mention of inoculations had driven in hot haste from the city 300,000 people many of whom afterwards returned and were inoculated, while at Hubli he had seen the inhabitants come in their thousands to be inoculated and pay for the inoculations. The medical officer in charge at Hubli had performed about 80,000 inoculations and had only observed some 12 abscesses. He thought that 12 abscesses only in 80,000 inoculations showed good results. But after all what were the numbers of inoculations performed to the 300,000,000 inhabitants of India. He felt that even if every one consented to be inoculated it was impossible to provide the vaccines or the medical officers for such a demand. It

was accordingly to sanitary improvements that he looked with the most confidence to protect India against the plague.

Professor W. J. Simpson said that he had much pleasure in accepting the invitation of the President to join in this discussion because it afforded him an opportunity of expressing his high admiration for Mr. Haffkine and his work. He had the honour of being associated with Mr. Haffkine in a secondary position in the cholera inoculations and that association had revealed to him the untiring energy and perseverance of Mr. Haffkine. It had also shown to him the caution and unbiased character of the man. In fact, he often thought that Mr. Haffkine was the strongest antagonist to the inoculations, viewing every fact in the most adverse light. He mentioned this because he could personally testify to the solidity of the basis on which the facts connected with the cholera inoculations rested and from his experience in 1897 at Kirkee, near Poona, he was satisfied that the same careful investigation and verification of facts were carried on with reference to the inoculations in plague as had been done in the case of the cholera inoculations. To his mind there was no question as to the solid foundation on which the results of the cholera and plague inoculations were based. He would also say that facts and results were more attractive to him than theoretical considerations such as those raised by Professor Wright. The one fact of importance was that wherever the inoculations of cholera and plague had been performed and cholera and plague prevailed the incidence on the inoculated was always less than among the uninoculated. That was the major fact. Other considerations were of minor importance and would no doubt in time be attended to. He knew that Mr. Haffkine was most anxious to introduce improvements into his system of inoculation.

The President (Lord Lister) said that from the information which he had been able to collect some time ago he had satisfied himself as to the success of the inoculations. Those who had previously to the meeting been somewhat sceptical of the results of the inoculations would, he felt sure, after listening to Mr. Haffkine and the other speakers, be convinced of the benefits to be derived from the system. No doubt progress would be made in the direction indicated by Professor Wright. Seldom was any system introduced which did not later admit of improvement, and if progress in this respect was to be made he did not know of anyone better qualified for that purpose than Mr. Haffkine himself. He was glad to learn from Professor Wright that Mr. Haffkine's work in India had facilitated the introduction of the typhoid inoculations. He was also particularly struck by the facts that 80,000 inoculations had been performed and that when the benefits of the inoculations had been explained to them the inhabitants had come forward in such large numbers and paid for the inoculations. It appeared to him that Mr. Haffkine's work in India was doing good not only by saving thousands of lives but by producing an excellent political effect, in that it showed the natives of India that the Government and Europeans were doing their best at a time of great distress and in this way they were breaking down the barriers which existed between the natives of India and Europeans.

Mr. Haffkine said that he was very sensible of the kind words which had fallen from the President and others with regard to his work and he thanked them most cordially. As regarded the questions raised by Professor Wright he had answers for some of them but not for all. The latter would no doubt provide material for Professor Wright and others to work out. He had done his best under the conditions and he hoped that they would excuse him for what he had not been able to do. All work was limited by the extent of their abilities and the conditions under which the work had to be carried out.

Margate Hospital.—An interesting ceremony was performed at the above hospital on the afternoon of June 21st. Dr. Church, President of the Royal College of Physicians of London, in the presence of the treasurer of the hospital, Mr. Michael Biddulph, M.P., Member of the Court of Directors, the Mayor of Margate, and many other distinguished visitors, named the wards which have been recently reopened, the first being called after the founder of the hospital, Dr. Lettsom. A garden party added to the interest of the occasion. The highly efficient sanitary arrangements for the patients and the admirable accommodation for the nurses and servants drew forth many complimentary and just remarks such as they richly deserve.

ANNUAL DINNER OF THE EPIDEMIOLOGICAL SOCIETY OF LONDON.

Speech by Mr. Haffkine.

The annual dinner of this society was held at the Grand Hotel, Trafalgar-square, on June 23rd, the President, Dr. Franklin Parsons, occupying the chair. The guests of the society were Dr. Church, President of the Royal College of Physicians, Mr. W. M. Haffkine, C.I.E., Mr. Lithiby, Assistant Secretary of the Local Government Board, and Mr. Thomas Wakley, jun.

The toast of "The Queen and Royal Family" was proposed by the Chairman and that of "The Navy and Army," which was coupled with the names of Fleet Surgeon Theodore Preston, R.N., and Colonel Lane Notter, by Mr. Shirley Murphy.

The toast of "The Visitors," which was proposed by Dr. J. F. Payne, was associated with the names of Mr. Haffkine and Mr. Lithiby. Dr. Payne extolled the services rendered to public health by the Local Government Board and stated in the course of a very appreciative speech that the perusal of Mr. Haffkine's discourse at the Royal Society left in his mind no doubt as to the efficacy of the inoculation system and the great benefit derived therefrom in combating the plague.

Mr. Haffkine, in thanking the speaker and the society for their hospitality and their kind appreciation, said that it afforded him great pleasure to see the epidemiologists of London collected into an organised body of scientific investigators. It so happened now that in whatever part of the world an epidemic of any magnitude broke out — except when epidemics broke out on the Continent of Europe—it was sure to affect a British possession. In this case, as in others, honour and burden and obligation remained inseparable; and if it has come to be that among nations that of Great Britain is the first in trade, expansion of dominion, rule over civilised and uncivilised races, the world must expect that that country will be the first as far as knowledge of and provision for the health and safety of mankind are concerned. The advent of the plague in China, India, and Egypt has directed as much attention towards the epidemiologists of this country and their labours as some seven years ago the cholera on the continent did towards the studies and efforts made at that time in France, Germany, and Russia. An enormous amount of new knowledge was then created by numberless investigators—by Roux, Metchnikoff, Sanarelli, Renan, Mendoza, Pfeiffer and Kolle, Fraenkel, Löffler, Neisser, Pfuhl, Sobernheim, Max Bleisch, Gunter, Foker, Weibel, Heider, Kutscher, Bonhoff, Russell, Dunbar, Fischer, Dahmen, Sprong, Orloff, Bujwid, Wiltschur, Sawtchenko, Blackstein, and very many others too numerous for him to mention. It seemed to him, however, that one very important teaching was to be extracted from all those past efforts. While they themselves (the company at the dinner) were rightly proud of the acquisitions made by their craft during those memorable years it was sad to see that the practical statesman, the man concerned in the welfare of nations, was scarcely aware of those acquisitions and remained conscious of one fact, which was that if cholera were to break out to-day again in Europe or in any other part of the world the sanitarian and the administrator and the ordinary citizen would find not a single weapon added by those innumerable continental investigations to their arsenal of defence as it existed before 1892. Would they be justified in quarrelling with the statesman because of his want of appreciation? He (Mr. Haffkine) presumed that the majority of the company present, including himself in that majority, belonged to the category of thinkers who believed that brains and powers of observation and of study were given to man for the purpose of bettering the conditions of life whether those conditions affected himself or his fellow creatures or the animal or vegetable or the inanimate world around him. And if that was true the investigator might well feel his responsibility before the sceptical statesman who remained unsatisfied and before the ordinary everyday man who looked up to the scientist for instruction as to how to resist evil and attain good and who got no response to his appeal. If they were to be questioned as to how it was that so much valuable knowledge contained no teaching, no

guidance in actual life and was taking so long to lead to any palpable benefit, he for one would answer that whatever experience he possessed in the matter pointed for him to one circumstance—to the want of organisation in the studies and laboratories of Europe. Was it not true that for knowledge to be *useful* it must not only comprise a large number of facts, but that all those facts must be such as to find themselves connected in one particular central point which then appears as a real, concrete lever whereby to move and to direct the course of events in nature? Not only in such a vast complex of phenomena as that represented by an epidemic, but upon one square yard of garden soil, every one of them would be able to point out quite a definite set of associated or dissociated objects of investigation such as might keep occupied all the institutions of the world for physical, chemical, mineralogical, zoological, botanical, even sociological, and many other researches during a period of time—if they wished only to limit it there—of a century to come. It was clear that the good application which man could make of his intellectual gifts consisted not in taking in all the infinity of facts and phenomena which happened to pass around him, but in discerning and selecting among them such as were combined by an intimate, concrete, palpable relation of cause and effect, or of common cause or of combined effect or of any other clearly conceived relation and of which at the existing stage of his power and knowledge the best use for the benefit of the living generations could be made. There was hardly any need for him to qualify that conclusion by adding that the recognition of that kind of facts was not always easy or possible; that, secondly, if they were to systematically neglect th recording of information which they came across, but for which there happened to be no recognised demand in the forum of science, great losses for that science would ultimately result; and that, lastly, the natural development of thought necessitated the investigation of subjects which found themselves in logical sequence with already existing information, whether those subjects be or be not of a character leading to benefit to man. Those maxims were irrefutable and should be accepted as such. But when setting out upon an investigation immense importance belonged to the general plan, to a judicious selection of problems, to the recognition of essential and unessential, important and secondary, points; and it remained true that the secret of obtaining useful knowledge lay in that necessity of collecting in a short space of time and while the study is guided by one leading and discriminating purpose of a large amount of correlative facts. In experimental science, however, every bit of knowledge is to be gathered by direct exploration, by seeing, feeling, analysing, interpreting every single act and object at work in the factory of nature. And the scientist, be he as greatly gifted as he may, has no more than one set of eyes, ears, hands, one brain to work with, and it is not more possible for him to divine knowledge or to effect many things at one time than it is for any other worker in any other field of activity. An organisation of studies is evidently necessary. It must be rendered universally known and understood that problems of scientific inquiry necessitate the maintenance of not less strict and combined a service of trained workers than even a military organisation, or a mill or factory, or an enterprise of any kind where complicated work is to be done and divided amongst a number of coördinate agencies. The scientist from whom useful teaching is expected must be able to know well every collaborator with whom he is sharing a given part of his programme of work; must be well aware of the extent of his abilities, of his fitness for special tasks; must understand and be able to rightly appreciate the meaning of his reports, the value of his observations; must be able, so to say, to look through the instruments and eyes of his staff of co-workers, to listen through their ears, as well as to reckon at every given moment on their loyal coöperation in the common task of research. It is only by introducing a whole service of students into a coördinate machinery of inquiry, by transforming a scientific school into one collective investigator, animated with trust in their teacher and guided by one idea that important knowledge as to the things in nature—*useful truth*—can be gathered, and that the study of calamitous phenomena such as are represented by epidemics can yield effective information for the benefit of a country and of mankind as a whole.

Mr. LITHIBY, in the course of an interesting speech, insisted that the epidemiologist must not lose heart because his work is not at once taken advantage of by the legislature. An Act of Parliament was, as it were, the resultant of many complex and often antagonistic forces, of which science was not at present as powerful an one as it should be. There was, however, this consolation to the epidemiologist: that what he thought to-day the Local Government Board would not improbably think to-morrow.

The toast of "The Epidemiological Society" was proposed by Dr. CHURCH, President of the Royal College of Physicians, and the CHAIRMAN in returning thanks for the society pointed out that the Epidemiological Society was the oldest of the societies dealing with questions of public health, having been in existence for nearly half a century. Its formation was first mooted by Mr. Tucker, afterwards one of its honorary secretaries, and it was inaugurated at a meeting held on July 30th, 1850, under the chairmanship of Lord Ashley, then a member of the first General Board of Health, and afterwards, as the Earl of Shaftesbury, so well known for his labours of practical philanthropy in many different fields. The first President was Dr. Benjamin Guy Babington who held that office for 14 years and who was followed by a line of distinguished successors. It was at first expected that the society would be largely supported by the general public as well as by medical men, but this hope was not realised although the membership of the society had never been limited to the medical profession and valuable papers had occasionally been contributed by laymen. Owing to want of funds in its earlier years the society was unable to carry out one of its original objects—viz., the instituting of investigation on its own behalf into local epidemics and the need for such work was later superseded by the appointment of a Government medical staff and of local medical officers of health. For a similar reason the society was unable at first to publish Transactions, being dependent on the medical press for the insertion of abstracts of its proceedings, but since 1859 it had published Transactions, at first occasionally and now annually. The earlier labours of the society dealt with small-pox and vaccination. On this subject it presented in 1853 a report which was ordered by the House of Commons to be printed and which largely contributed to the passing in that year of the first compulsory Vaccination Act. In 1859 it carried out an investigation by a committee on the subject of diphtheria. Among the other subjects which had frequently occupied its attention might be mentioned cholera, plague, fevers, leprosy and tropical diseases, naval and military diseases, and general questions relating to epidemics. In 1897 it had founded in commemoration of the centenary of vaccination a Jenner medal which had appropriately been first bestowed on Mr. W. H. Power, F.R.S., whose demonstration that the aggregation of small-pox patients in hospitals in populous places caused the disease to spread around them had led to the removal of small-pox hospitals out of towns and thus had done more, at any rate as regards London, to diminish small-pox than anything since the introduction of vaccination. The society differed from other similar societies in its cosmopolitan character, having correspondents and contributors not only in British colonies and dependencies but also in foreign countries in all quarters of the world, and also in its dealing with the behaviour of diseases among communities of men rather than with clinical and pathological studies on the one hand or with administrative questions on the other hand. Whatever progress might be made in bacteriology the need for checking the results of laboratory experiments by epidemiological observation would still remain.

Mr. MALCOLM MORRIS proposed "The Health of the Chairman," and the reply of Dr. PARSONS concluded an interesting series of speeches.

THE PROPOSED CONSULTING INSTITUTION OF THE HOSPITAL SATURDAY FUND AT BIRMINGHAM.

A MEETING of the medical profession convened by Dr. Saundby to consider this matter (to which full reference has been already made in THE LANCET[1]) was held at the Birmingham Medical Institute on the afternoon of Friday,

[1] THE LANCET, May 13th and 20th, 1899.

June 23rd. There were present: Sir James Sawyer, Mr. Alfred Stanley, Dr. T. W. Brown, Dr. Parkes, Mr. Thomas Salt, Mr. Henton White, Dr. Maclean, Dr. Gibbs Blake, Dr. Parsey, Dr. Thomas Wilson, Mr. Garvey, Dr. Kauffmann, Dr. Carter, Dr. Adamson, Dr. Kirby, Dr. De Blaquiere, Dr. Dain, Dr. Leslie Phillips, Dr. Powell, Dr. Sturge, Dr. Huxley, Dr. Walter R. Jordan, Mr. Clark, Dr. Herbert Perry, Dr. Melson, Dr. Short, Dr. James W. Russell, Dr. Lewis, Dr. Lamb, Dr. Warden, Dr. Foxwell, Dr. Branson, Dr. Suckling, Dr. Nelson, Dr. McCardie, Dr. Line, Dr. Drury, Dr. Martin Young Mr. Donovan, Dr. Foxcroft, Dr. Strathy, Dr. Oswald Lewis, Mr. John Tighe, Mr. Pooler, Mr. Boyton, Mr. Furneaux Jordan, Mr. D. Llewellyn Thomas, Mr. Thomas Thomson, Mr. Robertson, Mr. Baldwin, Mr. Bennett, Mr. Weeks, Mr. Clarke Haslam, Mr. Blakeney, Mr. Lawrie, Mr. Wilkinson, Mr. Chadwick, Mr. Gifford, Mr. Pepper, Mr. Leedham-Green, Mr. Priestley Smith, Mr. Griffin, Mr. Lunn, Mr. Round, Mr. Hancock, Mr. Bennett May, Mr. Campbell, Mr. Legge, Mr. Hall, Mr. Downing, Mr. Thompson, Mr. George Thomas, Mr. Sutton, Mr. Johnson, Mr. Bygott, Mr. Mann, Mr. Turner, Mr. Elkington, Mr. Perry, Mr. Yuill, Mr. Murray, Mr. Buckley, Dr. Lydall, Mr. Smallwood Savage, Mr. Lucas, Mr. Sandison Crabbe, Mr. Wright Wilson, Mr. McCall, Dr. Wood White, Mr. Prosser, Mr. Garner, Mr. Newton, Mr. Trout, Dr. Morton, Mr. Gordon, Mr. John W. Taylor, Mr. Gilbert Smith, Dr. Charles MacNaught, Mr. Wykes, Mr. Vokes, Mr. Burges, Mr. Oakes, Mr. Motteram, Mr. Leech, Mr. Eales, Mr. Milligan, Mr. Burton, Mr. Weston, Mr. Bodkin, Mr. Shillito, Mr. Marsh, Mr. Whitcombe, Mr. J. James Evans, Mr. Harmar, Dr. Mackay, and Mr. Christopher Martin.

Dr. THOMAS WILSON announced the unavoidable absence of Dr. Saundby through illness.

It was proposed by Mr. BARLING, seconded by Dr. CARTER, and resolved that Mr. Priestley Smith should take the chair and the proceedings were opened by an explanation of the reasons which had made it necessary to summon the meeting. Dr. THOMAS WILSON then read the notes of the conference which had taken place between himself, Dr. Saundby, Mr. Priestley Smith, and six delegates of the Hospital Saturday Fund Executive held under the presidency of the Lord Mayor on June 12th. These notes and the subsequent correspondence between the Lord Mayor and Dr. Saundby having been read the CHAIRMAN proposed the following motion:

That this meeting of registered medical practitioners residing in or near Birmingham objects to the proposed Consulting Institution on the following grounds: 1. That it is proposed that non-medical employers shall exploit the services of medical men; in other words shall employ medical men to earn fees, pay them by salary, and deal with the proceeds at their own pleasure. 2. That no restriction is proposed as to the class of persons to be received as patients, so that persons well able to afford the usual consultation fees would obtain a concession to which they have no claim. 3. That it is proposed to incorporate the institution as a limited company to carry on the business of physicians and surgeons and that this is contrary to the Bill which has passed the House of Lords entitled "An Act to amend the Companies Acts," which has received the support of the General Medical Council and the British Medical Association. 4. That such an institution would assuredly seek to procure patients by advertising and canvassing in contravention of professional rules and any practitioner holding service in it would render himself liable to the censure of the General Medical Council.

This was seconded by Dr. CARTER, Clause 3 being altered to read "the Bill which is now before the House of Lords" instead of "the Bill which has passed the House of Lords."

Upon the motion of Dr. KAUFFMANN, seconded by Dr. MELSON, Clause 4 was altered to read:

That in the event of the proposed institution seeking to procure patients by advertising and canvassing in contravention of professional rules any practitioner holding service in it would render himself liable to the censure of the General Medical Council.

The resolution as amended was then put to the meeting and carried unanimously.

The CHAIRMAN then moved:

That this meeting records its opinion that no registered medical practitioner should take office in an institution open to these objections.

This motion was seconded by Mr. BARLING, supported by Sir JAMES SAWYER, Mr. OAKES, and Mr. FURNEAUX JORDAN and was carried unanimously.

Mr. BARLING asked the chairman to explain to the meeting what the position was of those who had represented the profession in the conference with the Hospital Saturday Fund delegates upon the matter of the question raised by the third resolution?

The CHAIRMAN replied that the representatives had given no pledges and that the meeting was free to deal with this question as it pleased.

The CHAIRMAN then moved:

That this meeting approves of the proposal submitted to the executive of the Hospital Saturday Fund on behalf of the profession—viz., that many of the consultants should agree to see Hospital Saturday patients for the reduced fee of half a guinea, provided that arrangements can be made for preventing abuse of this privilege.

This was seconded by Mr. BARLING.

The previous question was moved by Sir JAMES SAWYER, seconded by Mr. MORRISON, and carried by a large majority, 70 hands being held up for it and 15 against.

After some further discussion it was decided by show of hands to continue the discussion of the general principles underlying the third resolution. After remarks had been made by Mr. NEWTON, Mr. WHITCOMBE, Mr. MORRISON, Dr. ADAMSON, Dr. KAUFFMANN, Dr. MELSON, Dr. CARTER, and Mr. RICKARDS the following motion was proposed by the CHAIRMAN:

That this meeting desires to remind the promoters of the scheme in question that many of the recognised consultants of Birmingham are in the habit of charging a reduced fee to those who satisfy them that the usual fee is beyond their means.

This was seconded by Mr. BARLING and carried *nem. con.*, 75 hands being held up in its favour.

The meeting terminated with a vote of thanks to the chairman.

ANNUAL DINNER OF THE ASSOCIATION OF BRITISH POSTAL MEDICAL OFFICERS.

THE annual dinner of this association was held at the Whitehall Rooms of the Hôtel Métropole, London, on June 22nd, when Dr. WILLIAM DOUGAN of Glasgow presided. There was a large attendance of members of the association and guests and a very pleasant evening was spent.

After the loyal toasts had been honoured, that of "The Navy, Army, and Reserve Forces" was proposed by Dr. ARNISON and responded to by Lieutenant-Colonel RAYMENT who remarked that while we admired the bravery of our soldiers we must not forget the great zeal of our medical officers in the field who added incomparable zeal to marvellous skill in the performance of their duties during a campaign. The numerous Victoria Crosses awarded to the members of the Medical Services during recent years testified to the courage which they had always shown on the battlefield.

"The Houses of Parliament" was proposed by Mr. NOBLE SMITH.

Sir WALTER FOSTER, M.P., in replying, said that the relation of the House of Commons to the medical profession was a difficult question. There were in the House of Commons a certain number of people anxious to promote the interests of the medical profession. If the medical profession combined it would have as much influence over Parliament as other bodies who were less educated and less numerous than the medical profession. The medical profession should combine, irrespectively of politics, in order to force whatever party might be in power to legislate for the general interests of the community. A distinguished friend of his had suggested the appropriateness of a quotation from Holy Scripture. In Chronicles it was recorded that Asa trusted not in the Lord, but in the physician, and in the next verse it was recorded that Asa slept with his fathers. That seemed to be still the popular opinion concerning the profession. It was high time that that idea was eradicated and he was sure that if the profession were united it might correct that impression. In respect to vaccination he felt sure that those who had voted as he had voted on the last measure in Parliament respecting vaccination would be justified in finding that vaccination would increase rather than decrease throughout the country as a result of the measure. As long as the medical profession maintained the high standard which it now associated with itself it would gain the respect of the public. In conclusion he held that the efficiency of the Postal Department was in no small measure due to the medical profession.

Sir JAMES CRICHTON BROWNE in proposing "The Education and other State Departments" said he had no doubt that if the muzzling order were enforced strictly throughout the country for 12 months it would result in immeasurable benefit to man and beast and if vaccination were enforced irrespectively of all conscientious objection it would emancipate the people from a foul disease and free the profession from the persecutions and annoyances of a small, ignorant, noisy, self-sufficient section of the public. He went on to criticise Sir John Gorst's observation that if a parent sent a child to school unfit for instruction either because he was underfed or because he was fatigued it should be regarded as a legal offence on the part of the parent. He (Sir J. Crichton Browne) would rather depend upon the maternal instinct than upon maternal or grand maternal legislative interference.

Sir GEORGE KEKEWICH, K.C.B., in responding, said that he was not responsible for Sir John Gorst's statement in any way. Sir James Crichton Browne was the first when payment by results was prevalent in elementary schools some years ago to raise his voice against the over-pressure in schools. Over-pressure had after a very hard fight now disappeared from the elementary schools. The Education Department was indebted to the medical profession in many ways and he hoped for the welfare of that Department and for the nation at large that the medical profession, whatever its grievances, would never go on "strike."

"The Postmaster-General, the Secretary, and other Executive Officers of the Post Office" was proposed by Sir HUGH GILZEAN REID and acknowledged by Mr. B. N. THOMS, the Postmaster of Nottingham.

"Municipal Institutions" was proposed by Professor CORFIELD and replied to by Bailie DICK in a vigorous speech.

The other toasts were the "Medical Press," proposed by Dr. J. TATHAM and acknowledged by Mr. THOMAS WAKLEY, jun., and Dr. A. S. GUBB; "The General Medical Council," proposed by Professor SIMS WOODHEAD and replied to by Dr. GLOVER; "The Association of British Postal Medical Officers," proposed by Sir THOMAS ROE and responded to by the PRESIDENT; and "The Guests," proposed by Dr. RICHARD PARAMORE and replied to by Mr. W. BRAID, Postmaster of Manchester.

Dr. PARAMORE in a brief speech proposed the health of Dr. R. Ritchie Giddings, the honorary general secretary of the Association, on whom the labour of the organisation of the dinner had fallen, and congratulated him on the successful results. Dr. GIDDINGS in replying met with a most hearty reception.

Mr. Arthur Crudge's Imperial Orchestra played during the dinner.

THE NEW ROYAL OPHTHALMIC HOSPITAL BUILDINGS.

ON Tuesday last, June 27th, the Duke and Duchess of York opened the new building of the Royal Ophthalmic Hospital in City-road. Their Royal Highnesses were received by Sir John Lubbock (president of the hospital), Mr. H. P. Sturgis (chairman of the Committee of Management), and the architects (Messrs. Keith Young and H. Hall). The Duke of York unlocked the door of the main entrance hall, where the surgeons of the hospital, the matron, and the secretary were presented to their Royal Highnesses. The Royal party were then conducted over the building and on their arrival at the daïs Miss Evelyn Tweedy presented the Duchess of York with a bouquet. The visitors included the Lord Mayor and the Lady Mayoress, Mr. Alderman and Sheriff Alliston, Lieutenant-Colonel and Sheriff Probyn, the Bishop of Islington, Rev. Prebendary Whittington (chaplain), Sir J. Whittaker Ellis, Sir Squire and Lady Bancroft, Mr. J. Lea Smith (trustee), Sir Thomas Lipton, the Chief Rabbi, Mr. H. Davison (chairman of the Building Committee), and Mr. A. G. Pollock (chairman of the Special Appeal Committee).

Mr. STURGIS, addressing their Royal Highnesses, said that they represented the fourth generation of the Royal family who had shown interest in the hospital. The Duchess of Kent was patroness of the hospital; the Queen was interested in the institution before she came to the throne; the Prince of Wales laid the foundation-stone of the new buildings; and now their Royal Highnesses had opened them. That institution was the oldest eye hospital in the world and, he believed, the largest. It was known to the profession throughout the world and to the poor throughout England, and he wished that the hospital was known as much to the rich as it was to the poor. The committee had endeavoured to make the building as perfect as possible and they would come into it free from debt. The cost of maintenance at the old building was about £8000 a year, and their regular income, including grants from the three great hospital funds, did not reach the sum of £3000 a year, so that they had to make up the deficit in other ways. The cost of maintenance in the new building would be as much as £11,000 a year and he hoped that their income would increase to a corresponding extent. What they wanted was an increase in annual subscriptions; and beyond that they wished to raise a fund of £50,000 which would be a guarantee for the large ground-rent which they now had to pay and for certain initial expenses.

Sir JOHN LUBBOCK said that they were very much indebted to Mr. Sturgis and the members of his committee for the care and attention which they had given to the hospital and they were also greatly indebted to the medical staff and the matron. This was not only a great hospital but it was a most important school of ophthalmic science, and it had done very much to promote their knowledge of that important branch of surgery.

The Duke of YORK said that he was very grateful to Sir John Lubbock for the kind words which he had used with regard to himself and the Duchess and that he was much interested in all that he had heard from Mr. Sturgis and he thanked all in the Duchess's name as well as in his own for the very kind reception which they had received. He congratulated the architects on the excellent result of their labours and the committee and the medical staff on occupying a new hospital designed and equipped according to the most modern requirements. The cost of maintenance of these new buildings, which covered three-quarters of an acre, would be very heavy, but he was sure the committee deserved the generous support of the charitable public to enable them to continue the useful work which had been so ably carried out by this hospital for nearly a quarter of a century. He trusted that the public would come forward and help the hospital and prevent it from getting into debt by their annual subscriptions. At the present time the attendance at the hospital was about 400 daily and the operation for removing cataracts from the eyes of young children, which had saved very many of them from becoming blind, was originated at the Moorfields Hospital. He declared the new building open and wished the Royal London Ophthalmic Hospital continued prosperity in its new building and a long career in its great and important work.

Their Royal Highnesses then left the building.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary meeting of the Comitia was held on June 26th, Dr. CHURCH, President, being in the chair.

The PRESIDENT announced that Dr. Horton-Smith would deliver the Goulstonian lectures for 1900, Dr. Cheadle the Lumleian lectures for 1901, and Dr. Halliburton the Croonian lectures for 1901.

The PRESIDENT also stated that he had sent a congratulatory message to Professor Stokvis on his having completed the twenty-fifth year of his professorship at the University of Amsterdam and a letter of thanks had been received in reply.

A report, dated May 8th, was received from the Committee of Management. The committee recommend that the following institutions be added to the list of those recognised by the Examining Board in England:—(*a*) For instruction in Chemistry, Physics, and Practical Chemistry: Municipal Technical School, Oldham; St. Olave's Grammar School, Tooley-street, S.E. (*b*) For instruction in Chemistry, Physics, Practical Chemistry, and Biology: Harrow School. The report also contained the answers to questions submitted to the College by the Education Committee of the General Medical Council on the subject of the standard of the

preliminary examination of medical students. The main opinions expressed were that the standard of examination should be raised and should be the same throughout the United Kingdom and that a period of not less than four years should elapse between the announcement of such a change and its enforcement.—On the motion of Dr. NORMAN MOORE, seconded by the SENIOR CENSOR (Dr. Cheadle) the report was adopted.

Several communications were received, amongst which were the following:

1. From Dr. T. Frank, presenting £100 to the College Endowment Fund.—On the motion of the TREASURER (Sir Dyce Duckworth), seconded by the SENIOR CENSOR, a vote of thanks was accorded to Dr. Frank for his great munificence and kindly consideration towards the College.

2. From the solicitor to the executors of Dr. Thomas Blackall, deceased, announcing the bequest by him to the College of the portrait of his father, Dr. John Blackall, F.R.C.P., of Exeter, by R. R. Reinagle.—Dr. NORMAN MOORE, in proposing a vote of thanks to the executors, referred to the work of Dr. John Blackall on dropsy and mentioned that he was one of the first to draw attention to the coagulation by heat of albumin in the urine and to associate this test with dropsy and disease of the kidney.—Sir SAMUEL WILKS seconded the motion which was carried.

3. From Dr. J. Weir Mitchell, asking permission to have a copy made of the portrait of Sydenham by Mary Beale in the possession of the College. The request was granted.

4. From Mr. Trimmer, reporting certain proceedings of the Council of the College of Surgeons on May 11th and enclosing a copy of the judgment of the court dismissing the recent appeal of the College against assessment for corporation duty.

5. From the Royal Institute of Public Health, inviting the College to join in urging the Government to appoint a medical officer to the Education Department. After some discussion, in which the PRESIDENT, Sir RICHARD THORNE, Dr. WARNER, and Dr. SYMES THOMPSON took part, Dr. PYE-SMITH proposed and the TREASURER seconded, that the paper "lie on the table." This was carried.

The President then dissolved the Comitia.

METROPOLITAN COUNTIES BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

MR. BRYANT UPON MEDICAL AID SOCIETIES.

AT a meeting of the Metropolitan Counties Branch of the British Medical Association on June 20th Mr. Thomas Bryant as President delivered his inaugural address. Having thanked the Association for the honour which they had conferred upon him by electing him president, he said that he felt that that Association of medical men ought to be a useful and active factor in moulding public as well as professional opinion into such lines as should be conducive to public and professional interests, for whilst professional interests must naturally take the first place it should never be forgotten that the main purpose of their existence as a profession was for the public advantage. Under these circumstances it was important that in all they did, either as individuals or in combination, they should avoid, even in appearance, everything which might seem to the non-professional mind to savour of professional rather than of public advantage and they should never forget that they were professional men and not tradesmen. Mr. Bryant said that there were evils in the pursuit of their calling which wanted a remedy—some connected with their public relations, others more associated with their own body. He thought that the interests of the profession and those of the public were identical: when the profession advanced in skill, knowledge, and character, the public prospered with it; when the profession slept or lapsed into bad ways the public suffered. Under these circumstances no blame could be brought against those who sought for means to either relieve or cure the troubles which affected their body and he believed that it would be their best policy to amend their ways where amendment was called for before venturing to touch public interests. Public opinion was beginning to appreciate the value to the community of past professional scientific work in the prevention and cure of disease and the relief of pain, and under such circumstances it was less likely than formerly to depreciate the value of their services if they were true to themselves and to the profession of their adoption. To carry out these objects some relied upon reform of the Medical Acts and of the General Medical Council, whilst others looked to the great medical corporations for assistance. Mr. Bryant thought that these cries for help to the medical corporations and the General Medical Council, with suggestions to reform the Medical Acts, had something humorous in their nature, although some improvement in the Medical Acts might reasonably be called for. Indeed, these cries reminded him of some sayings of Sydney Smith, that when A sees B in grievous distress his conscience always urges him to entreat C to help him and that the strongest test of the power of a charity sermon is made manifest when the sermon has so influenced a hearer as to induce him to put his hand into his neighbour's pocket in order that he himself may subscribe liberally to the cause advocated. With respect to the General Medical Council Mr. Bryant asked them to recognise that it was a body which was created in 1858 in the interests of the public to regulate the qualifications of practitioners in medicine and surgery and to enable the public to distinguish qualified from unqualified men. It had no other name than the General Council of Medical Education and Registration and no other disciplinary powers than those required for keeping the Medical Register pure, for which purpose it was given the power of striking off the Register the name of, or of suspending, any medical practitioner who had been convicted of felony or who had been found guilty of what the Council might conside "infamous conduct." It had nothing to do with regulating professional action or competition except with reference to registration, and under these circumstances the Council always took a public rather than a professional view of every case or subject that came before it for judgment. Acting on this principle the Council, having for years set its face against the employment of unqualified assistants to do the work of qualified men, had finally pronounced in a very definite way against "covering" and the employment of unqualified assistants, this conclusion having been based upon the view that such a practice was primarily injurious to public interests and secondarily to professional interests. On the same principle the Council protected titles so that the public should not be misled, and with a like object it had lately taken up the question of medical aid associations and had appointed a committee of its body, of which he (Mr. Bryant) was one, to report upon the subject, particularly in its public aspect, and in the work of the committee it had come out that there were two classes of medical aid associations, one worked by insurance or other commercial companies and the other a development of friendly societies. With the insurance and commercial companies there could be no sympathy, and no words which the General Medical Council could utter would have the smallest influence upon their conduct; whilst the law was in their favour they would last, so long as they were successful. The pity was that medical men could be so misled as to sell themselves to such taskmasters and to undertake professional work which they must know was not likely to be of benefit to the public upon terms which could not possibly be remunerative to themselves. It would be wrong for the General Medical Council to pronounce all men associated with such societies guilty of infamous conduct and to take them off the Register. There might be shown pity for their folly and condemnation for their action and at the same time an attempt might be made to influence them to mend their ways. The following resolution which was passed by the General Medical Council on June 6th might help the cause and in the future blossom into something stronger: "That the Council strongly disapprove of medical practitioners associating themselves with medical aid associations by which systematic canvassing and advertising for the purpose of procuring patients are practised." With friendly societies there was hope that good might come from negotiations which were still in progress between the representatives of friendly societies and the committee of the Council and that many of, if not all of, the difficulties which now existed between the friendly societies and their medical officers would become adjusted. With respect to the medical corporations they were now, as they

had been in the past, ready to consider every case of real or suspected misconduct when such had been rightly placed before them. But it was to be recognised that these corporations were not prosecuting bodies and that they expected the evidence of error in any individual case to be so placed before them that they could adjudicate upon the case with safety. The evidence could only be brought under their notice by their own members, and it was better that such should be brought together by some organisation of medical men rather than by an individual. As to organisation as a means of correcting the evils which affected their profession, Mr. Bryant said that he was a believer in its value—for it meant self-help, individual or combined, which was likely to be more efficacious than the wild cry to councils and corporations. But this medical organisation must not be laid on trades union lines and no selfish or unworthy motives should be its motor powers. It must not be of an overwhelming kind, although part of it was to be the great British Medical Association, neither must it be endowed with prosecuting powers (let the prosecuting powers remain in the hands of the defence associations which had proved their competency to do the work provided for them); it should be of a local or district character, and should include, if possible, all the medical men of the district. Its objects should be "professional" and "social," and whilst every effort should be employed to render its medical meetings of value and interest as a medical society its social meetings should be of no less importance. Vulgar methods of conducting work which injured the profession would probably soon be given up by the offending members, and the suggestion that at the next annual meeting the re-election of the recalcitrant member might have to be considered would probably bring about the desired result. As soon as the reprehensible practices were given up the erring brother might be re-elected, for the object of the society would be to raise the profession in its district and for this purpose anything like persecution was to be condemned. Mr. Bryant suggested that where branches of the British Medical Association existed such should be used for the purposes indicated and that each board should institute a "social" side. The quiet influence of such societies scattered broadcast over this country could have nothing but good effects upon the profession as a body. Any differences between rival practitioners would by the councils of these societies be readily adjusted and all questions of difficulty between public bodies and their professional workers would be more readily solved, but each council must be sure, before coming to its decision, that it had looked at the matter as fully from its public as from its professional aspect, for the public had their rights and no professional requirements would ever be allowed to override them. Mr. Bryant, in bringing his remarks to a close, said that the scheme was one of self-help all round and if carried out in a reasonable spirit it must work for public and for professional good, for the profession would by the scheme laid down be working with the General Medical Council and the corporations in purifying the whole body and in so doing it would be learning something more of the purposes and objects for which these bodies were originally formed. He trusted that they would give his suggestions careful thought, for they were based upon a desire to encourage self-help and to discourage the cry for outside assistance which was so inimical to all improvement.

BRISTOL HOSPITAL FOR SICK CHILDREN.—An "At Home" was held at the Victoria Rooms, Clifton, by those interested in this hospital. It was reported that there was a deficit of £2811 at the end of 1898. After a considerable discussion, in which the High Sheriff stated that the committee were anxious to clear off the debt which had been increasing, about 30 ladies promised to canvass the various districts of Bristol and to collect subscriptions for the hospital.

INSANITARY DWELLINGS.—At the meeting of the Newton Abbot Rural District Council, held on June 21st, attention was drawn to the sanitary condition of Hennock, where it was stated that there were only three closets for 93 people. The medical officer mentioned that at a house at Chudleigh he had found the closet under the staircase in a two-roomed house; he also complained of the ventilation of the schools at Heathfield.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following were among the principal amounts received at the Mansion House during the past week in aid of this Fund. The total now exceeds £42,000:—

	£	s.	d.
St. Peter, Vere-street	353	19	8
St. Luke, Nutford-place	113	3	10
Church of the Annunciation, Bryanston-street	200	0	0
Holy Trinity, Knightsbridge	118	5	7
St. James, Clapham-park	105	1	7
St. Marylebone Presbyterian Church	80	13	8
St. James, Muswell-hill	50	5	8
Acton Parish Church and Mission	42	3	0
Highbury Quadrant Congregational Church	74	15	5
All Saints, Clapham-park	48	18	3
Christ Church, Highbury	47	18	9
St. Margaret, Barking	40	6	8
All Saints, St. John's Wood	40	12	0
Waltham Abbey Churches	42	9	7
Camden Church, Camberwell	69	12	4
St. Mary Magdalene, Paddington	31	19	0
St. Mark, Kennington	30	7	4
St. Margaret, Westminster	180	7	1
Christ Church, Gipsy-hill	121	9	1
All Saints, Ennismore Gardens (with additions)	409	14	3
St. Paul, Camden-square	54	9	5
St. Mary, Stoke Newington, Parish Church, £65; Old Church, £45 5s. 2d.; Mission of the Holy Redeemer, £34 12s. 1d.	144	17	3
Heath-street Baptist Chapel, Hampstead	51	4	4
Lewisham Parish Church	62	6	4
St. John Baptist, Leytonstone	23	0	0
St. Mark, Notting-hill	27	3	6
St. Mary, Newington, and St. Gabriel's Mission	25	13	0
Carmelite Church, Kensington	36	2	0
St. Andrew, South Streatham	22	5	9
Miss Morice	25	0	0
St. Mary, Hornsey-rise	32	12	6
Holy Trinity, Northwood	24	18	9
Bloomsbury Baptist Chapel	21	14	3
Christ Church, Westminster	20	0	0
St. Alban, Holborn	34	18	3
Blackheath Wesleyan Church	21	15	7
Streatham Hill Congregational Church	21	0	0
St. Luke, Chelsea, Parish Church (with additions)	59	11	11
St. Andrew, Stoke Newington	63	8	7
Christ Church, Southgate	60	0	0
St. Saviour, Southwark	28	10	3
St. John, Ealing Dean	28	12	0
Hammersmith Parish Church	29	5	6
Mr. W. Mann Cross, C.C.	25	0	0
St. Thomas, Streatham	32	6	5
Keston Parish Church	23	0	0
Hendon Parish Church	50	2	5
Holy Trinity, Eltham	55	17	6
Holy Trinity, Roehampton	69	9	11
Metropolitan Tabernacle	70	0	0
Trinity Presbyterian Church, Notting Hill	46	12	0
"F. G. D." a further donation	50	0	0
St. Paul, Upper Norwood	78	18	2
St. John, Upper Norwood	35	2	0
St. Mary, Plaistow, Kent	37	14	10
St. Mary's Hospital Chapel, Ilford, (with additions)	27	18	0
St. Augustine, Highbury	57	2	10
Highgate Presbyterian Church	37	3	7
St. Luke, South Hackney	30	12	4
St. Jude, Chelsea	25	0	0
St. Saviour, Clapham	22	4	11
Rectory-place Congregational Church, Woolwich	29	18	6

The records of other amounts have been received and will be published in our next issue.

THE CARE OF THE EMPLOYÉ:

THE INAUGURATION OF THE WELLCOME CLUB.

THE firm of Burroughs, Wellcome, and Co. are to be congratulated on the generous care which they have taken to promote the material and intellectual welfare of their employés. First and foremost they have established the eight hours' day; then they have spared no pains or expense to facilitate the employment of the leisure thus accorded in a healthy manner. Their principal works are at Dartford, where they employ more than 800 persons of both sexes, including some 200 scientific workers. But Dartford is a small place and its resources in respect to amusements are very limited. Hence the idea of establishing a club and institute where intellectual relaxation could be combined with athletic sports. For this purpose Mr. Wellcome succeeded in purchasing the Manor House known as Acacia Hall and the extensive and beautiful grounds in which it is situated. The Manor

House he has fitted up as a club for the members of the staff. As now furnished it contains ladies' sitting-, dining-, writing-, and dressing-rooms and gentlemen's sitting-, dining-, writing-, and smoking-rooms. These rooms open on to a square galleried hall with broad staircase and panelled walls. The seventh century carved oak furniture, numerous pictures, and other objects of art bestowed on this club convey an impression of refinement combined with luxury and comfort which are not only attractive and pleasant but must produce an elevating influence on all the members. An old mill which stands close by has been converted into what is called the library building. The upper floor is fitted out as a lecture-room and there is a library which already contains some thousands of volumes. Below are ladies' sitting-, sewing-, and writing-rooms, and also a very large tea-room, for the employés who do not belong to the staff. A third building, called the Tower House, contains club accommodation for men. Then there are elaborate bath-rooms and finally a large gymnasium. The grounds are most extensive, being half a mile in length and very tastefully laid out. There is a lake, a river, and many pleasure boats for rowing, a large field for sports of all sorts, a grand stand to witness the same, a rich orchard and a beautiful pleasure garden, several luxurious lawns, and many superb trees.

These grounds and premises were officially inaugurated last Saturday by Mr. Wellcome who opened the gate with a golden key and entered, followed by about 1100 guests and employés. After visiting the grounds and premises the company was entertained to lunch under a gigantic tent. Of course, various toasts were enthusiastically drunk and the speeches demonstrated the cordiality of the relations which exist between Mr. Wellcome and his employés. The afternoon was spent in witnessing the sports organised by the members of the new institute and after dinner there were more sports, including aquatic sports. The entertainment terminated with a magnificent display of fireworks. Throughout the organisation was most perfect; every item of the lengthy programme was executed at the appointed moment. The guests were the subject of the minutest care: a place for each was provided, there was no confusion, no crushing, and no inconvenience. No detail was neglected and the perfect generalship with which 1100 persons were marshalled throughout was an object-lesson in organisation and administrative skill.

At the Wellcome Club and Institute the members will have ample opportunities of self-culture and of helping each other in their respective studies. On the other hand, the extent of the grounds, facilitating the organisation of numerous and varied sports, will surely contribute to maintain the health of the employés and render them all the more disposed to work, for in their leisure moments they will have every opportunity of enjoying wholesome relaxation. It is proposed that the members shall pay subscriptions which will cover the expense of the sports, but the firm allows them to enjoy the use of the premises and the extensive pleasure-grounds rent free.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On the Urban Districts of Longton and Fenton in Staffordshire in Reference to Long-sustained and Highly Fatal Prevalence of Diphtheria Therein. By Dr. WILFRED W. E. FLETCHER.[1]—This report comprises an elaborate and valuable inquiry, mainly statistical, into the prevalence of diphtheria during two and a half years—1896 to the middle of 1898—in two adjacent urban districts in the Staffordshire potteries. All students of diphtheria outbreaks are well aware of the great difficulties met with in seeking explanation for the behaviour of diphtheria in a given locality and the Longton and Fenton outbreaks afford good illustration of the complexity of the problem. Here were two urban areas abutting on each other, with populations of a similar class, with sanitary conditions and administration very much alike, each suffering during the same period of two and a half years from sustained prevalence of fatal diphtheria. Yet great differences in the behaviour of the disease was manifest in the two places, particularly if the statistical aspect of the case be considered.

Dr. Fletcher has been careful in drawing inferences as regards diphtheria merely from contrast of the mortality rates or of the notification returns in the two places. Thus the significance of the total diphtheria death-rate in each instance had not only to be considered in relation to the proportionate number of persons attacked at several age-periods; the treatment adopted had also to be taken into account. The effect of the free use of antitoxin in one locality (Longton) seems to have been manifest in the mortality returns, which contrasted favourably with Fenton where the use of antitoxin was much more restricted. Again, with regard to notifications, Dr. Fletcher indicates how wide may be the apparent statistical difference between one and another place suffering from an equal diphtheria incidence if in the one case a relatively large and in the other a small proportion only of the slighter throat ailments occurring in course of the epidemic are notified as definite diphtheria. Some difference of this kind was apparent between Longton and Fenton.

Making all allowances for these considerations, however, there remained between the two places a marked difference in their diphtheria statistics as regards number of persons attacked, ages of principal incidence, and fatal result. Dr. Fletcher demonstrates that this difference was mainly due to the operation at Longton of the elementary schools in spreading infection and to the absence of any obvious spread by school intercourse in the case of Fenton. In this connexion he formulates the following propositions as to the conditions which may be expected to be fulfilled in a place where diphtheria, having once been set going, is maintained and spread by intercourse of school children.

1. An undue proportion at the commencement of the epidemic of "first-cases-in-houses" among children of school-age attending school.
2. A special incidence at the commencement of the epidemic on the children attending some one school (or, possibly, more than one), and, therefore, presumably, on the area (or areas) from which children attending that school (or those schools) were drawn.
3. A special incidence at the commencement of the epidemic on children of school-attending age.
4. An increasing incidence as the epidemic progressed on persons above and below school-age proportionately greater than any corresponding increasing incidence on children of school-age.
5. An excessive incidence in the epidemic period, as a rule, on children of school-age, if not absolutely at least proportionately to the number living at such age.
6. Rise and fall of weekly notifications parallel severally with school operations and school closure.

There is, perhaps, room for doubt whether "children of the school-attending age" are best defined—as is done in this report and, indeed, generally—as persons between three and 15 years. Probably a majority of children attend school in their fourth year, but the number of children between 12 and 15 years who attend school, including all "half-timers," is, if we mistake not, a small proportion of the total number of children at those ages.

It is clear that both in Longton, where diphtheria spread by way of schools, and in Fenton, where it did not, the prevalent diphtheria was of a severe type. For 1897 and the first half of 1898 the diphtheria death-rate per 1000 was no less than 2·7 and 2·9 in Longton, and in Fenton 1·9 and 2·4, whereas in 67 large towns of the Registrar-General it was only 0·24 and 0·28. Per 100 notified cases in Longton during two and a half years 17·7 were fatal; in Fenton for the same period the fatality rate was as high as 27·2 per 100 notified cases. Dr. Fletcher found that in the course of the epidemic in each district there was, as has been pointed out by Dr. A. Downes and others, an alteration in the relative proportion of males and females attacked at several age groups, females suffering more at the higher ages. It might be conjectured that in these pottery districts where so large a proportion of the population of both sexes is employed in factories and workshops diphtheria has been maintained by cases of sore-throat unrecognised as diphtheria contracted by youths and adults in their places of employment. But, as Dr. Fletcher shows, it is almost impossible to collect facts with regard to any throat affection other than notified diphtheria.

[1] London, Eyre and Spottiswoode, East Harding-street; Edinburgh, John Menzies and Co.; Dublin, Hodges, Figgis, and Co. Price 1s.

MORTUARY FOR BRISTOL.—At the meeting of the Bristol Town Council held on June 14th it was decided to erect a mortuary with a room for inquests adjoining in the Quaker's Friars, Bristol, the estimated cost being about £2000.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointment is announced:—Fleet Surgeon E. R. H. Pollard to Haulbowline Hospital.

ROYAL ARMY MEDICAL CORPS.

Lieutenant Alexander B. MacCarthy resigns his commission. Major F. D. Elderton assumes medical charge of the Royal Artillery, Mounted Infantry, Royal Engineers, District Staff, and details, at Marlborough Lines. Major G. T. H. Thomas is ordered to proceed to Woolwich for duty. Colonel T. O'Farrell, takes up his duties as Principal Medical Officer at Malta about July 1st. Captain S. G. Moores, attached to the Scots Guards, is substituted for Surgeon-Major Crooke-Lawless, Coldstream Guards, in the medical detail for the Salisbury Plain manœuvres.

ARMY MEDICAL STAFF.

Surgeon-General Alexander F. Churchill is placed on retired pay.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of Captain E. J. Morgan (Bengal) are placed temporarily at the disposal of the Government of the North-Western Provinces and Oudh. Colonel A. Scott Reid (Bengal) is appointed to be Administrative Medical Officer and Sanitary Commissioner of the Central Provinces. Captain E. A. R. Newman (Bengal), is appointed to act as Second Resident Surgeon, Presidency General Hospital, until further orders. Captain W. W. Clemesha is appointed to act as Deputy Sanitary Commissioner, Metropolitan and Eastern Bengal Circle, until further orders.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain C. A. MacMunn to be Surgeon-Major. Surgeon-Captain E. W. Skinner having resigned his Volunteer appointment, ceases to belong to the Army Medical Reserve of Officers.

MILITIA MEDICAL STAFF.

Surgeon-Lieutenant-Colonel J. M. Percival, 3rd Battalion the Royal Sussex Regiment, retires under paragraph 81, Militia Regulations, 1898, with permission to retain his rank and to wear the prescribed uniform on his retirement.

VOLUNTEER CORPS.

Rifle: 4th Volunteer Battalion the Queen's (Royal West Surrey Regiment): Arthur Mackenzie Hickley to be Surgeon-Lieutenant. 2nd (the Weald of Kent) Volunteer Battalion the Buffs (East Kent Regiment): Surgeon-Lieutenant P. Paget to be Surgeon-Captain. 1st Volunteer Battalion the Duke of Cambridge's Own (Middlesex Regiment): Surgeon-Lieutenant G. A. Cohen, from the 1st Tower Hamlets Volunteer Rifle Corps, to be Surgeon-Lieutenant.

MEDICAL ARRANGEMENTS FOR MANŒUVRES ON SALISBURY PLAIN, 1899.

The following are the medical arrangements for the manœuvres on Salisbury Plain:—

Staff and Personnel.—Colonel Gallwey, C.B., R.A.M.C., Principal Medical Officer. Major Babtie, C.M.G., R.A.M.C., Secretary. To each brigade of cavalry is attached one medical officer. To each brigade division of artillery is attached one medical officer. To each infantry brigade are attached two medical officers. To each bearer company are attached three medical officers with 61 non-commissioned officers and men. To each field hospital are attached five medical officers with 40 non-commissioned officers and men.

Stationary Hospitals (of 100 beds each).—No. 1 at Camp No. 1, West Down, near Tilshead. No. 2 divided into two sections at Camp No. 7 (Perham Down) and No. 10 near Bulford. The Station Hospital at Devizes will be increased to 50 beds to accommodate any overflow from No. 1 and arrangements have been made to send sick by train to the Connaught Hospital, Aldershot, and the Station Hospitals at Portsmouth and Gosport. Bearer Company No. 17 and Field Hospital No. 11 assembled at Camp No. 7 on June 26th, and will be relieved on July 31st by No. 1 Bearer Company and another Field Hospital. The 2nd Divisional Field Hospital were at Camp No. 10 on June 26th and will be relieved by No. 15 Field Hospital on July 31st.

Equipment.—The medical equipment known as "1898 pattern" is issued in accordance with the scale shown in Appendix 37 (*a*) Regulations for Army Services. A depôt for medical stores is established at West Down. The drills and manœuvres take place as follow:—

—	Period.	Locality.	Force.
Cavalry drills.	June 21st to July 19th.	Camp No. 1, West Down.	2 cavalry brigades (6 regiments). 2 battalions Royal Horse Artillery. 2 companies Army Service Corps.
Artillery drills.	July 31st to August 12th.	Ditto.	2 battalions Royal Horse Artillery. 5 brigade divisions field artillery. 1 company Army Service Corps.
Divisional manœuvres (first period).	June 26th to July 29th.	Camp No. 7, Perham Down. Camp No. 10, near Bulford.	6 companies Army Service Corps. 8 battalions infantry (Regulars). 8 battalions infantry (Militia). 2 squadrons cavalry. 2 brigade divisions field artillery. 1 bearer company. 2 field hospitals.
Divisional manœuvres (second period).	July 31st to Sept. 2nd.	Ditto.	Similar to last.

ARTISTIC LICENCE.

According to Mr. V. Gribayedoff in *Black and White* M. Georges Clairin's remarkable study of the oriental female while under the influence of violent excitement which is exhibited in this year's *Salon* is taken from contemporaneous life. "This scene," the artist is made to say at an interview, "I witnessed myself during a prolonged stay in Egypt four years ago while making studies among the ruins of the Temple of Karnac at Luxor. The method of conscription in Egypt has a thoroughly mediæval flavour. A sort of press-gang on horseback make a periodical *battue* among the fellaheen and every able-bodied young fellow captured by them is thrown into the district prison, whence, should his relatives be unable to ransom him, he is sent to the nearest military headquarters to be impressed into service." M. Clairin is a member of the Peace Society and strives to depict the horrors of war on his canvases. Artists as well as poets must be allowed licence but glaring anachronism is surely incongruous. No such spectacle as that displayed in this curiously named picture—which is entitled "Departure of the Conscripts at Luxor" but represents a crowd of women wailing in front of a dungeon from the barred loop-holes of which the prisoners' hands and arms are thrust forth with weird effect—has been possible in Egypt since Sir Evelyn Wood undertook to reform the Khedivial army some 17 years ago.

THE TRANSVAAL CRISIS.

As medical journalists we have, of course, nothing to do with purely political questions or those of Imperial policy, but we cannot fail to recognise, in common with all who read the daily papers, the gravity of the situation in South Africa at the present time. After the publication of Sir A. Milner's despatch and the declaration of policy announced by Mr. Chamberlain in his recent speech at Birmingham it is clear that matters are not likely to go on indefinitely as they are at present. If war should unhappily arise hereafter a large military force with a correspondingly large medical service will be required at the Cape and we shall learn before long whether any and what preparations are being made for that eventuality. We hope that there is an ample strength of the Royal Army Medical Corps for the purpose. With the large reserve of medical officers of the different forces available to take up military and hospital duties in this country there should, it is presumed, be no difficulty in providing a strong medical contingent for South Africa if required.

THE SOUDAN.

Sir William Garstin in his report on the recently conquered part of the Soudan does not give a very flattering or enticing description of the country. The southern provinces are highly malarious and unhealthy. The whole area lying south of the 15th parallel of latitude becomes during winter a hotbed of malarious fever. Of Lord Kitchener's Fashoda garrison some 2£0 men out of a total of

317 were suffering from fever in March last, one of the driest months of the year, when the Nile was about at its lowest. The Egyptians, British, and blacks suffer from fever in these southern provinces. The sanitary improvement of the country will evidently take a long time and will be a very costly undertaking.

THE PHILIPPINES.

General Otis in his last despatches regarding the American troops in the Philippines states that the rainy season has for the time being caused a suspension of military operations in the field. The sickness among the American force amounts to about 12 per cent. and is mainly attributable to the arduous work of the soldiers and the climatic conditions to which they have been exposed.

The Queen has given her authority that the following officers may accept and wear the Insignia of the Order of the Brilliant Star of the Third Class, conferred upon them by His Highness the Sultan of Zanzibar for distinguished bravery before the enemy under fire whilst in command of Zanzibar troops lent by His Highness for Lieutenant-Colonel Mac-Donald's expedition in British East Africa and Uganda:—Captain George Somers McLoughlin, D.S.O., R.A.M.C., and Captain John David Ferguson, D.S.O., R.A.M.C.

Correspondence.

"Audi alteram partem."

"HUNTER v. CLARE."

To the Editors of THE LANCET.

SIRS,—I am sorry to read in THE LANCET of June 24th in your leading article a repetition of certain statements regarding the Hunter case which have been in circulation for some time and which gravely prejudice the actual facts of the case. I am afraid you have been misled by your reporter, for although in my speech n the discussion at the General Medical Council on June 8th I gave in fullest detail the facts I am now about to refer to they did not find a place in your greatly abridged report of that discussion. Readers of your leading article unless cautioned certainly will be misled into the belief that the General Medical Council prosecuted Mr. Hunter for calling himself "physician"; that it did so on the opinion of Mr. Muir Mackenzie; and that it "did so with some infelicity" as Mr. Hunter "was a man whose prosecution would settle a vexed point." This position is contrary to fact.

The fact is that Mr. Hunter was misrepresented to the General Medical Council in November, 1897, by the legal advisers as being a quack practising under an American bogus M.D. degree and the lawyers asked the Council to prosecute him on that understanding under Section 40 of the Medical Act, 1858. This was the first and last the Council as such ever heard of the matter. Certainly the Council never in November, 1897, as your leading article would suggest, heard Mr. Mackenzie's "opinion," which opinion seems to have been read at some time or other to the Penal Cases Committee when they undertook the prosecution. If the Council had heard that opinion they would have learnt therefrom the important fact which was kept from them—viz., that Mr. Hunter was a registered practitioner and was an L.S.A.

The second question on which your article is seriously misleading is who is responsible for Mr. Hunter being prosecuted for calling himself "physician." You would seem to suggest to the profession that it was the General Medical Council; this is not the case. I proved in the Council chamber on the 8th of this month in the presence of the solicitor, who did not venture to controvert a single one of my statements, that the law officers (and especially the solicitor) were responsible for this prosecution, and I proved that the Council had never heard it suggested at any time that Mr. Hunter should be so prosecuted.

There is yet a third point on which your article is misleading in that it suggests that the General Medical Council is responsible for Mr. Hunter's appeal being resisted in the High Court and your article indicates that the Council wished to try "to get a somewhat small question at law settled." I proved on June 8th in the Council by extracts from the Penal Cases Committee Minutes (which were unaccountably omitted from the President's narrative of the case) that the only persons responsible for the absurdities which occurred in the Court of Appeal were the Penal Cases Committee and further I showed that the Penal Cases Committee without any statutory authority or power whatever ordered the appeal to be resisted and the case taken to the High Court. The money of the profession, therefore, has been wasted by the Penal Cases Committee without any authorisation from the Council and it will be interesting to find whether any attempt will be made next year to compel the profession to pay for an expense which the Council never authorised. As your readers will see at once this is a very serious matter, involving an improper expenditure of public funds, and will have to be dealt with by the financial authorities of the Council and the Council at the proper time.

I would like to take this opportunity of pointing out to you and to your readers that although I showed in the Council on the 8th inst. that the responsibility of this case rested wholly on the lawyers of the Council and on the Penal Cases Committee none of those officers were able to contest a single point, or even attempted to show cause why the stigma of this case should rest on the Council as a whole instead of on those who prosecuted the late Mr. Hunter, L.S.A.

I am, Sirs, yours faithfully,

June 28th, 1899. VICTOR HORSLEY.

THE PREVENTION OF BERI-BERI.

To the Editors of THE LANCET.

SIRS,—I would venture to ask you to draw the attention of the profession, especially of its members who work in the East or are concerned with the diseases of merchant sailors, to a very careful paper in the *Archives de Médecine Navale* for March, written by Dr. Laurent of the French Government Service in Siam, on the Prevention of Beri-beri by the Increase of Fatty Foods in Dietaries. He had two epidemics to deal with. The first, at Chantauboun, concerned a party of 260 native soldiers. 140 were bachelors; 100 used only their service rations, 47 of whom were attacked, or 47 per cent.; 40 boarded out, paying a little more for their extra food, of whom three were attacked, or 7½ per cent. 120 were married; two were attacked, or 1⅔ per cent.; among the 120 wives there were no attacks.

In their food only can he find a difference between these groups. The married suffered equally with the others from exposure and chill, had similar houses and the same water, but were more crowded in their huts. On the whole, too, it is probable that they had less food, but what they had was more oily—more like the food generally used by the natives. These soldiers complained of the beef which they got. It was not, they said, fat enough to be eaten with their rice; "too strong" for them. He largely substituted pork in their rations for beef, and the epidemic, which had lasted a month and was increasing, ceased suddenly. A little later he visited the prison at Pulo Condor and found another epidemic in progress; this too, though more severe than the first, stopped, as he says "brusquement" when an issue of one and a half ounces of lard with fresh vegetables and fish was given daily and 10 oz. of pork were served out five times a week. The conclusion from his paper is that beri-beri is an infectious disease attacking people who are reduced in health by a diet wanting in fat. He notes that the service ration of these soldiers was poorer in fat than the diet of the natives' unfettered choice—beef, and, if I may judge by experience of beef issued elsewhere in the tropics, poor beef, taking the place of the pork and duck which these people so constantly use.

This conclusion that a diet lacking in fats predisposes to beri-beri is specially interesting as it is not, so far as I can see, at variance with any successful measures which have been taken to prevent beri-beri. This etiology is hinted at in Hirsch's book and strong facts are quoted in its support, but as it is not the only or even the exciting cause it is rejected by his too exclusive analysis. The need for an increase in fats is rarely discussed, but never denied when a new dietary to prevent beri-beri is being arranged. Fats are, however, generally increased, though more stress is laid in the papers on the larger quantity of proteids.

Without further experiments we cannot be certain of this

but it is worth noting that the Japanese Navy considers itself to have lost beri-beri by an improved dietary[1] introduced in 1884 when everything was increased and milk and tea were added; in that year they had 157 cases of beri-beri per 1000 men (formerly 324 per 1000). In 1885 rice was reduced, wheat and bread were added, and the vegetables were increased by a half and milk was raised to a pint and a quarter daily. In that year only 6 cases per 1000 were treated and only 1·3 per 1000 were fresh cases. Fat was increased here with the other things, but Dr. Laurent at Chantaboun has made the experiment with fats alone. This theory also gives us an explanation of the occurrence of beri-beri in ships at sea. One must assume that the ship has in some previous voyage become infected. How difficult it is to prove this even in recent cases is shown in Worthington Smith's letter in the *British Medical Journal* of Nov. 5th, 1898—ships changing name and nationality. The disease is then in the ship,[2] and when provisions begin to run short (and fatty foods are apt to run short earliest after vegetables and fruit) beri-beri breaks out, the crew being now predisposed.

We might, perhaps, thus explain the occurrence of beri-beri in the Richmond Asylum,[3] as the dietary there was very poor in fats and the disease, being it is necessary to suppose introduced in 1894 or earlier by some old sailor, found a capital soil and flourished exceedingly. Anyone referring to the above quoted paper will see that in the Richmond Asylum the only fatty food issued, except perhaps the nightly cocoa, was eight ounces of bacon for men and less—seven ounces—for women; and it is perhaps worth noting that the incidence on women was far greater than is usual. Further, to stop it in Siam Dr. Laurent gave pork every day or else 50 ounces a week. There is perhaps an omission in the report, as I think the Local Government Board diet for aged and infirm approves the issue of half an ounce of butter daily which is not mentioned in the paper quoted—*voilà l'occasion* of a crucial experiment that might be made in the Richmond Asylum.

Dr. Laurent's investigation is most thorough and his report detailed and, to me, convincing. The importance of the matter leads me to beg you to notice his paper and so give his views and observations the widest publicity.

I am, Sirs, yours faithfully,

W. E. HOME, M.D. Edin.

H.M.S. *Tamar*, Hong-Kong, May 11th, 1899.

*** We have already drawn attention to Dr. Laurent's paper, *vide* THE LANCET, April 15th, p. 1045, and June 24th, p. 1731.—ED. L.

"INSTRUCTION IN TROPICAL DISEASES."

To the Editors of THE LANCET.

SIRS,—I was sorry to see in THE LANCET of April 8th a letter from Mr. M. D. Eder which will surely tend to minimise the importance in the eyes of the medical profession of England of a special education—or opportunity for education—in tropical diseases for those of us who are destined to practise our profession in warm climates. A very short time spent on the West Coast of Africa, and between two and three years of practice pursued in the Darien district of the Isthmus of Panama justify me, I think, in having formed an opinion on this point. The average man leaves for the tropics within a year or so of qualifying, and I know that for my part, from an examination point of view, I religiously skipped the pages of my text-book relating to dengue, verruga, yaws, and the like.

He who has never seen a case of yellow fever or a bilious remittent must, indeed, be a born diagnostician if he can (in some cases) discriminate between them in the first two days of illness. Many will be glad of the opinion of an "old coaster" on the first case of "craw-craw" they may meet with on the Benin river, and I can recall some half-dozen cases of the so-called bejuco sore of this district which 99 men out of 100 in England would swear to being a hard chancre. I missed my first case of beri-beri for a fortnight. The admission is painful, but the fact remains.

A month in the wards of a hospital for tropical diseases would help a man immensely, and a few lectures on what to look out for when he got to his destination would be of more practical use to him than the half-dozen lectures on the pathology of exophthalmic goitre which he may have been supposed to have attended in his student days. But, seriously, our recognised authorities on tropical medicine admit how inaccurate our knowledge is of the various types of disease—and of fevers especially—met with abroad, so surely they and all interested in the study of tropical medicine will herald the opportunity for systematic research which the establishment of institutions such as those in Liverpool and London will afford. Incidentally I may remark that a year or so spent in the tropics soon after qualifying is one of the best trainings a man can have. He will probably be more or less isolated and will have to act on his own responsibility and without skilled assistance. He will learn to rise to occasions and will now and then have the opportunity of performing operations which, were he in England and possessed of any conscience at all, he would most likely relegate to the hands of a specialist.

I am, Sirs, yours faithfully,

J. H. L. TYLECOTE, M.B., B.Ch. Vict.,
Surgeon to the Darien Gold Mining Company.

Cana, near Panama, Republic of Colombia, May 19th, 1899.

[1] THE LANCET, July 9th, 1887.
[2] Lowson, Brit. Med. Jour., September, 1887.
[3] Conolly Norman, Brit. Med. Jour., Sept. 24th, 1898.

THE SUPERFICIAL TREATMENT OF DEEP DISEASES.

To the Editors of THE LANCET.

SIRS,—While many, like myself, have doubtless read with pleasure the valuable practical remarks on treatment by Dr. Howship Dickinson in the Baillie Lectures published in THE LANCET[1] not a few must have been surprised at his sweeping condemnation of our old friends, poultices, blisters, and indeed external applications generally, in the treatment of deep disease. His argument really amounts to this—that the condition of internal organs cannot be modified by influences arising from the cutaneous surface. But both physiology and pathology tell us that through the nervous system, and more immediately the vaso-motor nerves, there is a constant correlation between superficial and deep structures. For good or for evil their joint action and reaction never ceases. Exposure to a chilly air when one is hot and perspiring, and especially if fatigued, will cause by reflex action contraction of the vessels of the skin and may determine congestion or even inflammation of abdominal, thoracic, or other organs. On the other hand, if the distension of the internal vessels has not gone beyond congestion a warm bath may by the dilating action of the superficial vaso-motor nerves determine an increase of the blood stream to the cutaneous capillaries, relieving the pressure on those within and permitting them to return to their normal condition. These simple illustrations may suffice to show the connexion between the skin as a whole and internal organs. But we now know that their relations are definite and local. Long ago the late Mr. Hilton, in his classical work on "Rest and Pain," foreshadowed the more exact observations of Head, Mackenzie, Starr, and others on the relation of the viscera, and even parts of them, to definite cutaneous areas. Thus it happens that a morbid state of, say, the stomach will sometimes reveal itself by pain or hyperæsthesia in the cutaneous district of its external neural correspondent—in the instance named between the left nipple and the umbilicus, and occasionally well round the sides of the chest at its lower part to the spine. At page 44 of the first volume of the Glasgow Hospital Reports I have discussed this subject at greater length.

The intimate association through the nervous system of deep-seated organs with definite cutaneous territories having been established it is easy to understand that there may be a very clear and decided action by blisters and other external agents on internal disease. In order, however, that the fullest benefit may be derived from their influence it is obviously important that whatever the application be, whether sedative or stimulant, it should be made to the portion of skin which has a special neural connexion with the internal structure in which the morbid action is situated.

I am, Sirs, yours faithfully,

Glasgow, June 19th, 1899. ALEX. ROBERTSON.

[1] THE LANCET, June 10th and 17th, 1899.

A TRUMPERY ACTION FOR MALPRAXIS: THE VALUE OF A DEFENCE ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—I have just emerged successfully from an experience in the county court and I am sure I shall be doing my professional brethren a service if I call their attention to it. An action for £50 damages was brought against me for improper treatment of a damaged hand. I only saw the patient on two occasions and then went for my holiday, but it turned out that months after the injury some stiffening of the fingers remained. I do not believe that the woman would have gone to the expense of an action if she had relied upon her own means, which were proved to have been 4*s.* 9*d.* per week, nor do I think that any solicitor would have taken up such a flimsy case. But there was another factor in this case—viz., the insurance money which the complainant received under the new Employers' Liability Act. This amounted to her full week's earnings for many months and then it was settled for a lump sum of £37. The point of this case is, Was this insurance money used in order to bring a trumpery action against her medical adviser? If this is the case it adds another terror to medical practice and is another strong argument in favour of every medical man joining one or both of our excellent defence societies. I should like here publicly to acknowledge my indebtedness to the London and Counties Medical Protection Society, of which I am a member, and which took up my case and so ably carried it to a successful issue. The courtesy, attention, and kindness which I received from everyone connected with the society I can never forget, and the moral support that it gives one to think that one is not left to one's self to fight one's own battle can hardly be calculated. I had two medical witnesses and they were so impressed with the advantages of membership of a defence society that they decided there and then to join. I trust that many more will follow their example and become members. I am, Sirs, yours faithfully,

W. WOODLEY STOCKER.

Willesden-lane, N.W., June 26th, 1899.

THE INNERVATION OF INTRA-CRANIAL BLOOD-VESSELS.

To the Editors of THE LANCET.

SIRS,—In his first Croonian lecture which was published in THE LANCET of June 24th I observe that Dr. Bradbury, in discussing the factors concerned in the production of sleep, states (p. 1690) "that the intra-cerebral blood-vessels have not been shown to possess any vaso-motor innervation." This is, I believe, true as regards the intra-cerebral vessels, but inasmuch as these are largely a continuation of the pial vessels which have been shown to be profusely innervated, it is more than probable that improved staining methods will show that the intra-cerebral vessels are likewise under nerve control. Obersteiner in 1897 found pial vascular nerves in a gold preparation and considered that the fact invalidated the theory of Leonard Hill and Bayliss. I stained the pial vascular nerves on many preparations in May, 1898, and also found pial vascular nerves bearing fully developed ganglion cells. These results were published in the *Edinburgh Medical Journal* for November, 1898, and again in the Morison lectures published in that journal in 1898 and 1899 and in THE LANCET in 1898.[1] Dr. Gulland of Edinburgh likewise found these nerves in July, 1898. These facts emphasise the importance of the vaso-motor factor in all cerebral states of work and rest, to which it no doubt bears the same relation that it does to the conditions of work and rest in any other organ. I am, Sirs, yours faithfully,

ALEXANDER MORISON.

Upper Berkeley-street, W., June 23rd, 1899.

"THE ROYAL ARMY MEDICAL CORPS MANUAL."

To the Editors of THE LANCET.

SIRS,—I see in THE LANCET of June 24th that credit is claimed by the staff of the Volunteer Ambulance School of Instruction for the method of lifting wounded now adopted in the new manual. This method of taking post and lifting has been the subject of conversation between medical officers both of regulars and of volunteers on many occasions during the last 10 years. The principle was also embodied in a scheme of drill which I offered to the St. John Ambulance Association in 1893. This scheme was brought to the notice of their committee but not adopted, one of the chief reasons being that they had just adopted a modified form of the drill then in use by the Medical Staff Corps. Under these circumstances it would be interesting to me to know on what grounds the suggestion of the present method is claimed by the staff of the Volunteer Ambulance School of Instruction.

I am, Sirs, your obedient servant,

VALENTINE MATTHEWS.

Suffolk-street, Pall Mall, S.W., June 24th, 1899.

[1] THE LANCET, Dec. 17th, 24th, and 31st, 1898.

THE HOSPITAL REFORM ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—Dr. W. Knowsley Sibley and Dr. Ernest Snape have been requested by the council of the above association to make an investigation into the methods adopted by the metropolitan hospitals for the purpose of discovering the circumstances of the patients who apply for medical relief. The council will feel grateful if facilities are given to make this investigation as thorough as possible.

I am, Sirs, yours faithfully,

T. GARRETT HORDER,

Cardiff, June 24th, 1899. Hon. Sec., Hospital Reform Association.

"STRAWBERRIES AND GOUT."

To the Editors of THE LANCET.

SIRS,—I was much interested in your annotation on the above subject in THE LANCET of June 24th, as I have for some time considered that the indiscriminate banishment of strawberries from the dietary of the gouty is unnecessary. Strawberries are rich in mineral salts and yield on an average 3·40 per cent. of ash. The mineral constituents contain about 30 per cent. of potassium salts and about 42 per cent. of sodium salts, and it is the large amount of the latter which necessitates caution in advising the free use of strawberries to gouty patients. My own practice is only to forbid the use of strawberries to those patients who are liable to repeated recurrences of acute or subacute gout on account of the undoubted effect that sodium salts possess of accelerating the deposition of sodium biurate when the fluids of the body are fairly saturated with that substance. If, however, the condition of the gouty subject is such that there is no indication of an approach to such saturation of the fluids of the body, then it is both unnecessary and unscientific to forbid the use of so delicious and so useful an article of diet as strawberries.

I am, Sirs, yours faithfully,

Weymouth-street W. June 26th, 1899. ARTHUR P. LUFF.

THE MIDWIVES' INSTITUTE AND THE BILL FOR THE REGISTRATION OF MIDWIVES.

To the Editors of THE LANCET.

SIRS,—I shall be much obliged if you will allow me once again to state that the Midwives Bill now before Parliament is not promoted by the Midwives' Institute nor did they "introduce" Lord Balfour of Burleigh's Bill as stated by Mr. Victor Horsley.[1] The Bill promoted by the Midwives' Institute was one introduced by Mr. Fell Pease in 1890, in consequence of which the Select Committee on Midwives' Registration was appointed. From that time the Bill has been in more influential and competent hands than ours and our part has been limited to sending a representative to the committees that have drafted the various Bills.

I am, Sirs, yours faithfully,

ROSALIND PAGET,

Representative of the Incorporated Midwives Institute on the Bill Committee.

Buckingham-street, Strand, June 27th, 1899.

[1] THE LANCET, June 24th, 1899.

THE AMOUNT OF ANÆSTHETIC IN CASES OF DEATH DURING ADMINISTRATION OF CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of June 17th you refer to a number of deaths occurring during the administration of chloroform, and as usual I find detailed accounts of the amount of anæsthetic "used" or "given." Even where not expressly stated it appears to be inferred that if a drachm is "used" the patient gets a fixed percentage of this drachm into his blood *viâ* the lungs. Nothing could be further from the truth. Anyone who has given a large number of anæsthetics knows how the depth and frequency of respiration vary in different patients and at different times in the same patient, consequently, although it is easy enough to say how much chloroform has been vapourised in a given time, it is impossible to say how much of this vapour has been inhaled by the patient. The only approximately correct method of calculating this is to administer the chloroform from an air-tight inhaler which from the concentrated vapour so produced is rightly condemned as being highly dangerous. With many of the elaborate machines now in vogue it is easy enough to blow a certain percentage of chloroform vapour at the patient; the difficulty is to get him to inhale the same at a uniform rate. Apart from the saving of chloroform, which is cheap enough, I fail to see any advantage in anæsthetising a patient by means of a cumbrous apparatus and "using" only half a drachm over the production of the same result by means of half-an-ounce gradually dropped on a simple mask such as Skinner's. If the patient does not absorb a similar dose of chloroform in each case, why do we get a similar result? A number of practitioners administer chloroform by means of machines which are said to produce a vapour of a fixed percentage and consider it practically impossible to have a death. For their benefit I may state that I have while using such an inhaler intentionally produced symptoms of overdosage—i.e., shallow respirations with dilated pupils. In fact, the only criterion of how much chloroform the patient is absorbing is the effect on the pulse, respiration, and pupil, and as far as the patient is concerned it matters little whether the amount "used" is a drachm or an ounce.

I am, Sirs, yours faithfully,

Plymouth. C. HAMILTON WHITEFORD.

THE MEDICAL REGISTER.

To the Editors of THE LANCET.

SIRS,—On looking at the Medical Register I am surprised to see the name of Sir Samuel Rowe, K.C.M.G., still in its pages. Sir Samuel Rowe died about ten years ago. His name is omitted from the Medical Directory and other books of reference. I am, Sirs, yours faithfully,

COL., R.A.M.C.

A CORRECTION.

To the Editors of THE LANCET.

SIRS,—My attention has been directed to the report of the meeting of the Clinical Society in THE LANCET of June 3rd, 1899, where the remarks made by me are somewhat inaccurately stated. What I did say on that occasion is as follows. I asked the writer of the paper if he regarded his case as one of appendicitis, as I did not quite gather from his paper if he did or not, and then I proceeded to remark that cases of intestinal obstruction due to the adhesion of the appendix and thus the formation of a band are of much interest. A case of this nature was under my care not very long ago. A male, aged 20 years, with symptoms pointing to appendicitis, who was also markedly hysterical, was about two weeks after admission, at a time when his symptoms were much improved, suddenly seized with symptoms of acute intestinal obstruction. The abdomen was distended, did not move during expiration, and somewhat later fæcal vomiting occurred. At the operation performed by my surgical colleague the small intestine was found to be obstructed by a band which was divided. Subsequently the patient died and at the necropsy "the appendix was found to be of a dark colour slightly bound down near to the cæcum and had been divided. The free end was adherent at the mesenteric attachment of a loop of the small intestine. In the pelvis there were extensive adhesions between the intestines and the walls of the cavity and there was a small collection of pus."

Although not exactly to the point mention might also be made of obstruction subsequent to an attack of appendicitis due to traction and kinking of the bowel. Two such cases were recently under my observation.

I am, Sirs, yours faithfully,

Reading, June, 1899. FRANCIS HAWKINS.

THE LONDON INTERNATIONAL CONGRESS ON THE WHITE SLAVE TRAFFIC.

(BY OUR SPECIAL COMMISSIONER.)

ALL who desire to save the community from a widespread and appalling disease which makes innumerable innocent victims should watch with jealous care the proceedings of the promoters of the International Congress which was held last week in London under the pretext of dealing with the so-called "white slave traffic." The word "pretext" is used advisedly, for there can be doubt that consciously or unconsciously, with malice prepense or by the mere accident and force of circumstances, practically the Congress proved to be a snare at least for the foreign representatives. Indeed, one of the most distinguished of the foreign guests did not hesitate to qualify the Congress as a *guet-apens*. It was organised and held under the auspices of the British National Vigilance Association, and a circular issued by this body states: "The objects of this Conference are, in the first place, to make known the nature of the white slave traffic, by which is meant the purchase and transfer from place to place of women and girls for immoral purposes, who are in the first place inveigled into a vile life by the promise of employment in a foreign country and thereafter are practically prisoners, and who, if they really desire to escape from a life of shame, cannot do so."

As typical of the spirit of inaccuracy which prevailed throughout it will be noted that in the above quotation the word "Conference" is used; in the other documents the word "Congress" was adopted and was allowed to be inserted in all the newspaper reports. But there is a great difference in these words. At a Conference the nationalities, the delegates, or the societies to be represented are selected; at a Congress the doors are thrown open to all comers. This was essentially a Conference, and not a Congress, and by taking the latter title the meeting inferred that it had a representative character which it in no wise possessed. But this is a minor point; the more serious matter is the definition of the object of the so-called "Congress." The definition is so framed that every humane person must perforce agree with its object. If women are kidnapped and made prisoners and as prisoners forced to lead a life of shame no one but a criminal would desire that such an abuse should continue. If there is an international traffic by which such prisoners are sent from one country to another everyone would be equally agreed as to the necessity of abolishing such a traffic. But the real object of the promoters of the Congress went much further. Under the pretext of abolishing a supposed "white slave traffic," the existence of which they did not even give themselves the trouble to prove, they sought to extort from the Congress a vote in favour of abolishing all sanitary regulations tending to prevent the spread of venereal disease. A reaction in favour of establishing some sort of control in England and the colonies has undoubtedly gained ground. The revelations concerning the condition of our army in India have at last awakened the attention of our legislators and a considerable section of the public which is not blinded by religious prejudices or led astray by fanatic faddists. Under these circumstances the British National Vigilance Association had to make a strenuous effort to regain something of the influence and credit which, in the face of facts and practical experience, it has lost. Hence the ingenious device of seeking to extract from distinguished foreigners some sort of endorsement of their own discredited views.

Fortunately this manœuvre signally failed and the leading foreign delegates would not allow themselves to be led astray from the path that had been traced for them. The resolution which was ultimately carried and which they approved will be endorsed by all right-minded persons, but the real struggle was over numerous addenda which would have taken the Congress much further and have placed the foreign delegates in the position of endorsing the extreme views of the British National Vigilance Association. This would only have rendered them ridiculous in the eyes of their fellow-countrymen and it was fortunate for them that they were sufficiently wide-awake not to be entrapped.

Turning to the legitimate subject-matter of the Congress it is pleasing to note that the Empress of Germany, the Queen of Sweden, the Marquis of Salisbury, the Duke of Westminster, the Cardinal Archbishop of Westminster, the Bishop of London, leading Nonconformist ministers, and many other eminent persons have expressed their sympathy with the desire to suppress a fraudulent international traffic in women for immoral purposes. On this everyone is agreed, but the preliminary step to suppressing this traffic is to prove its existence. In a sense it does exist, though this is not what many of the speakers meant and imagined; indeed, they did much to defeat their own ends by trying to prove too much. Undoubtedly many young women are engaged in what is not necessarily an immoral occupation but one which very generally leads up to immorality. There are notably two sorts of establishments—*brasseries* in France and in many countries a low sort of *café chantant*. There is nothing immoral in singing or in acting as a waitress; but where the singer or the waitress is expected to be good-looking, to be attractively dressed, to go and sit and talk to the customers and persuade them to pay for her drinks, this naturally leads to prostitution and to alcoholism. But why are these establishments so popular both among men and women? Simply because they represent a mitigated form of prostitution. The girl, under the pretext that she has a legitimate occupation and does not earn her living exclusively by prostitution, escapes the action of such Contagious Diseases Acts as exist abroad. The fact, also, that she does not depend exclusively on prostitution for her livelihood saves her from the lowest forms of prostitution: she is able to choose the men she prefers and is not forced to prostitute herself so frequently. Her life is not therefore quite so degraded and for this reason she is preferred by the men. But it is precisely this sort of half prostitution, this clandestine prostitution as it is called in France, which is the most dangerous from the point of view of public health. The remedy is obvious. All women who are employed to allure men should be placed under the Contagious Diseases Act. And here the Congress might have suggested a very practical and effective measure, namely, that all agencies which engage women to serve in such *cafés chantants* and *brasseries* should be obliged by law to notify such engagements and to enter into the contract that the women accepting such positions should have to undergo weekly medical examinations. It would then no longer be possible for a woman to be engaged for such an establishment under false pretences. As for the idea that such women may be kept prisoners this is absurd on the face of it. These establishments depend for their financial success on a crowd of visitors. The admission usually is free, and the women, whether as stylish waitresses or as singers, are engaged so as to increase the sale of drink. The women are no more slaves and prisoners than the ordinary barmaid in an English public-house. As, however, such establishments do not exist in England it is quite conceivable that some English girls may have gone abroad to work in such places under the mistaken impression that this employment was respectable. Anything that may tend to prevent a disastrous error of this description must be greeted with cordial approval. In this, however, we are still far removed from the white slavery so sensationally denounced at the Congress.

The real aim of the promoters of the Congress was to attack the licensed houses and by so doing to lead up to the abolition of all sanitary regulations. To attain this end totally different questions were inextricably jumbled together on the chance that a vote condemning a grievance that undoubtedly exists might appear as if condemning grievances that do not exist. Because some women have unwittingly gone to immoral beer-gardens or concert-rooms therefore licensed houses of prostitution about which there could be no possible mistake are to be shut up. Then our feelings are harrowed by cock-and-bull stories concerning the kidnapping of women for these State-regulated establishments. Here the women, we are told over and over again, are practically prisoners, and we are further led to believe that it is because of their innocence and simplicity that they are thus entrapped. But these speakers seemed to be unaware of the obvious fact that these licensed houses in the majority of cases represent the last and not the first stage in the career of a prostitute. It is when a woman is tired of the hazard of the street that she goes to such a house where all the material necessities of existence are amply provided and where she has no longer any anxiety as to the morrow. But it is said that innocent young girls are brought by fraud and violence to such houses and are there kept prisoners. Such an assertion is a slur on the police and Governments of the most civilised nations of the world and is manifestly absurd.

The assertion that these women are prisoners is also a gross insult recklessly flung into the teeth of the medical profession. The women are examined by medical men every week. Some of these medical men hold the highest rank in their profession, many are elderly married men of unimpeachable honour whose numerous charitable works stand as living witnesses to their humane feelings and tenderness of heart. The owners of the licensed houses are not present during the examination. The women are treated politely and with respect. They talk and are free to say anything that they choose. Nothing could supply a better guarantee against any abuse than this medical examination. By reason of his high social position and because he is paid by the State the medical man can have no motive whatsoever to shield the owner of a licensed house if guilty of any illegal action. If there be such abuses as described—if women are kidnapped, if they are kept prisoners in houses of ill-fame and prevented from communicating with friends or with the authorities—it is in England that such heinous crimes occur; for in England these houses are not known, there is nothing outside to indicate their nature, their existence is ignored and uncontrolled by the police, and there is no medical man to periodically examine the women. But on the continent the women have every week an opportunity of privately confiding any grievance from which they may suffer to the medical man who examines them. Thus, if this white slave traffic does exist one of the very best means of prevention is to put all the houses where it is supposed to take place under strict police and medical control. It is impossible to believe that both the police and the medical profession would join hands with traders in prostitution for the perpetration of abominable crimes. Yet without their coöperation how are such crimes possible? What interest can they have in such a reprehensible and despicable course of action? In England there may be such an interest. A house of this description may be known only to the one or two policemen who are on the beat in which it is situated, and these policemen are not so abundantly paid as to be always above the temptation of lavish bribery. Here the "white slavery" may exist, at least on a small scale, but on the continent it is impossible.

That it does not exist on the continent is proved by various speeches delivered at the Congress itself. Where there is a large amount of money to be obtained crimes may be committed. The first thing, therefore, to be done is to show that this white slave traffic is so extremely remunerative as to tempt persons to expose themselves even to the risk of long terms of penal servitude. But as to this fundamental question hardly any facts were brought forward. Mrs. Henry Fawcett, LL.D., stated: "The cruel persecution of the Jews in Russia has been the cause of a terrible increase in the number of Russian Jewesses as victims of this trade. They are sent to all parts of the world. It has been estimated that in the 'tolerated houses' of the city of Buenos Ayres alone there are 3000 European women imprisoned. The price of a woman varies from £30 to £50 there."

Though this statement is not accompanied by any proof whatsoever as to its exactitude, still the question remains as to where the large profits come in. When the cost of conveying a woman from Russia to Buenos Ayres has been defrayed what net profit remains out of £30 or £50 to be divided between the numerous intermediaries who must have been engaged in such a transaction? and can the profit falling to the share of any one of these intermediaries be sufficiently large to entice him to commit what in all countries is a common law offence? A Swiss representative at

the Congress stated, I do not know on what authority, that the owners of licensed houses at Geneva paid from £8 to £40 for each woman brought to them, and that the agent got a good commission on this sum. Finally, during a case investigated by the police at Bordeaux evidence was produced to the effect that two girls from Munich had been secured for exportation to South America in exchange for a payment of 30 marks each. These are the only cases I heard mentioned in which the actual money payments were given. Yet even on this slender evidence we are asked to believe that there is a large illicit international traffic in women. But why should the traffic be illicit when there are only too many women eager to accept the offers of the agents? Why commit a crime to obtain by force or fraud what can be secured for the mere asking? As a further and clinching proof we are told that nearly all the women in the licensed houses are foreigners. The Swiss representative stated that at Geneva only 16 per cent. of the women in these licensed houses were Swiss, and that the majority were French. In the East, Hungarians, Poles, and Germans abound. This latter argument proves that the speakers did not know the A B C of the question of which they professed to treat. These women are not monsters in human shape, they are not dead to all sense of shame and to the feelings common to us all. So long as a prostitute lives in a room of her own, walks the streets, and is free in her movements, she can avoid those whom she does not wish to see. But let us imagine the feelings of a woman sitting in some lewd dress in the common or public room of a licensed house if her brother or some other near relation or family friend were to walk in. Not only does it stand to reason, but it is a notorious fact, that the immense majority of women in entering such a house make it a condition that the house shall be situated in some distant town or, better still, in some distant country. That so many Jewish women should have gone to Buenos Ayres is on the face of it a most likely circumstance.

Undoubtedly prostitutes do travel very considerably from country to country and there are agents who facilitate this traffic just as there are agents for many other sorts of employment. For these other occupations various forms of deception or false representations are made. When workmen are imported into a town where there is a strike it is not often that they are told that their services are required to replace the strike hands. All deceptions, all fraudulent manœuvres, and above all anything approaching to coercion, should be rigorously put down by the strong hand of the law; but what most of the members of the Congress strove to ignore is the very certain fact that, in regard to prostitution, there is no need to resort to any such illegal practices. It is only necessary to take a casual stroll in the streets of London to realise that the supply is far above the demand. It may be said that, if this glut in the market applies to the streets, it does not apply to the licensed houses. Such an argument would be opposed to all the doctrines of political economy. If there was a larger demand in the houses the prices would go up and the women would find it to their advantage to leave the streets and resort to these houses. After all the question is in the main a question of money. One of the wisest observations made in the Congress was by the Swedish delegate when he asserted that prostitution had greatly decreased in Sweden because some years ago there was a notable rise in the rate of wages paid to women workers. A Belgian representative, Dr. Bonmarriage, the distinguished founder of the Hygienic Institute at the New University of Brussels, eloquently insisted that poverty was the main cause of prostitution. Prostitution was not an isolated evil, it was a symptom of disease of the entire body politic. The Congress, he insisted, was only striving to apply a poultice to a surface eruption instead of initiating a constitutional treatment of the malady. He proposed, therefore, that if the Congress should meet again it should be for the purpose of discussing the causes of prostitution. Needless to say, this proposal was too deep and too practical to be appreciated by the sentimental faddists who composed the majority of the Congress.

All that the majority of the so-called "social purity" agitators present really cared for was to condemn licensed houses and any form of State regulation. For this purpose, and as a sort of election manœuvre, they tried to convey the impression that under the mantle of State sanction abominable crimes were committed. This is false: it is a libel on the police, it is a slander on the medical profession, and it is an insult to most civilised nations. Isolated crimes are committed in this as in all other things, but there is no systematic crime and there is much less crime where State regulations are imposed. Nothing could be more futile than the effort to prove the existence of extensive crime due to State regulations. Even M. Bérenger, a Member of the French Senate who has rendered himself notorious throughout France by his extreme views on these questions, was obliged to state that "in Paris the police have no recent facts whatsoever to reveal. Too confident perhaps in the surveillance which it exercises on the public houses of tolerance, it is disposed to affirm that no woman or girl, major or minor, French or foreign, is brought to these houses or can be retained in them either by fraud or by violence. Spontaneous vice suffices, according to the police, to recruit these subjects of debauchery. There is the same absence of precise information when we address ourselves to the charitable institutions which are so well placed by the nature of their work to receive confidential communications from the unfortunates whom they succour. The lady superior in charge of the Depôt (the prison for prostitutes), the ladies of St. Michel (Nôtre Dame du Refuge), the directress of the lay patronage of the Good Shepherd, and the directress of the lying-in asylum of St. Raphael, interrogated by M. Henri Joly, had no positive revelation whatsoever to make to him" (*n'ont eu aucune révélation positive à lui faire*).

M. Bérenger is to be honoured for having ventured to make a statement so opposed to the cherished impressions of the majority of the Congress. But, after all, it was necessary that he should say something to justify his presence in their midst, so he disinterred a story several years old concerning 10 emigrants, some of whom were only very young girls, who were stopped by the police at Marseilles, but he likewise stated that "the police, thanks to the somewhat extensive powers with which they are armed in respect to emigration, can in most cases discover the facts and display in this a laudable zeal." As for *recent* facts he could only mention one single case and this occurred two years ago. He was therefore finally obliged to fall back upon some cases which were detected at Bordeaux in 1885 and 1886! Even then the only offence proved was the false entry on the passports of the age of the girls; but how often do young girls, hoping to find in prostitution an end to poverty and relief from the oppression of harsh employers, pretend that they are older than is the case. M. Bérenger denies that women can be detained against their will in France, even if they were of age. The police would interfere, "but it does not appear as if their assistance is required, for voluntary misconduct largely suffices to supply the needs of places of debauchery."

This is certainly not the sort of testimony which the organisers of the Congress meant to elicit. A preposterous story which was related by a Swiss lady delegate was far more to their taste. A young woman had stated that when on her way to America she had seen in the docks at Havre five or six young girls chained together and gagged, waiting to be embarked. This was the style of picture the Congress wanted for it bore all the traditional appearances of slavery. If such a tale could have gone the round of the press what strength it would have given to the vigilance agitators. Fortunately there were French delegates present. They shouted out that the story was an insult to France. Such a thing was no more possible in the docks of Havre than it would be in those of Southampton. Then the speaker hastened to add that the police did interfere and that the girls were delivered. But the French were not satisfied: they promised to institute an official inquiry and reduce the libel to its true proportions. This was not all the young person related. Not content with her experience at Havre she described all manner of incredible things as occurring to her at New York, at Boston, and on her return to Antwerp. She stated that at the latter place she was entrapped and driven for two hours till she reached a licensed house where violent efforts were made to force her in, but she fought so bravely that she got away. There is, however, no place at Antwerp which cannot be reached in much less than a two hours' drive and the licensed houses obviously are not situated at such a distance from the port. The whole tone of the story forcibly recalls the visions and imaginary events which hysterical persons constantly describe. Yet this is printed and in large type as part of the Swiss report. There is no name, no date, and no corroborative evidence is given.

The story so related is not worth an instant's consideration, yet it was solemnly presented to the whole Congress. It will in any case serve to show the incompetence of the investigators.

The attempt to connect "white slavery" with the legal measures taken in most countries to check the spread of venereal disease having thus utterly collapsed, the Congress was perforce obliged to content itself with the adoption of the following sensible resolutions:—

(a) That an agreement should be come to among the Governments: 1. To punish, and as far as possible by penalties of equal degree, the procuring of women and girls by violence, fraud, abuse of authority, or any other method of constraint to give themselves to prostitution, and in cases where persons are accused of this crime—2. To undertake simultaneous investigations into the crime when the facts which constitute it occur in different countries. 3. To prevent any conflict of jurisdiction by determining the proper place of trial. 4. To provide by international treaties for the extradition of the accused.

(b) That a close and permanent agreement should be come to among philanthropic and charitable societies of different countries to communicate to each other information as to the emigration of women under suspicious circumstances and to undertake to protect the emigrants on their arrival.

(c) That an exact and complete list shall be prepared of all societies in different countries competent and willing to fulfil this duty.

(d) That this list be sent to all the Governments and societies.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Decline of the Plague in India.—More Cases of Jigger.—The Re-establishment of Cantonment Hospitals.

REPORTS from all parts concerning the plague continue to be satisfactory. The number of deaths is rapidly diminishing and the total number for the whole of India for the week ending June 4th was 511 only. In Bombay the weekly total mortality has descended almost to its normal level and the reported plague mortality was only 64. There are about 4000 persons there still living in camps. In Karachi the outbreak has almost subsided, only two or three cases being now reported daily. In Poona also the deaths from plague are now very few. Calcutta continues to report from 20 to 30 cases a week, but the epidemic as such may practically be said to be over. Notwithstanding these favourable returns it must not be forgotten that the plague fails to be stamped out anywhere. Dropping cases show that the infection still lingers and if we are to judge from previous experience they herald the development sooner or later of fresh outbreaks. It must not be disguised that in addition to "pucca" cases of plague considerable numbers of suspicious deaths also occur. This is particularly evident in the large towns.

The arrangements for the treatment of plague cases at the Medical College Hospital, Calcutta, are unsatisfactory. The accommodation provided is a dull, dark, cellar-like ward on the ground floor which is also used for cholera and other infectious cases. In fact, cholera cases and plague cases frequently occupy adjoining beds. As this hospital is the most popular in Calcutta and as natives attacked with plague will more readily consent to go there than to any other place, the number of plague patients admitted has been considerable. Under the circumstances I consider the provision for plague cases to be quite inadequate. I have already reported on the absolute failure of the so-called family hospitals and also of the ward hospitals. The few cases of plague which are reported or discovered mostly go to the Medical College Hospital or to the Campbell Hospital. A small number remain in their own homes. The huge majority have died before they have been discovered.

On Sunday the s.s. *Canara* arrived in Bombay from Zanzibar bringing 105 passengers whom the health officer examined and seven cases of jigger were found among them. They were sent to the Goculdar Jejpal Hospital. On Monday the s.s. *Sordhana* arrived in Bombay also from Zanzibar with 38 passengers. One case of jigger was discovered and sent to hospital.

The Secretary of State has approved of the re-establishment of cantonment hospitals at 70 stations in India to carry out the cantonment rules of 1897; 27 of these will be first-class at stations having more than 1000 troops and the remaining 43 will be second-class hospitals. Medical officers in charge of the former will get Rs. 150 extra and those in charge of the latter will get Rs. 100 extra and horse allowance where necessary.

The Indian Medical Service at the present time seems to be very short-handed. Complaints are numerous as to the inability to get leave and many officers have been waiting for some considerable time.

Four more cases of plague are reported at Penang which, with the development of further cases at Alexandria, shows that the present epidemic of plague is gradually spreading over a wider and wider area. As all outbreaks of plague are slow in maturing it behoves the authorities at both these places to get well prepared before the threatening storm. They cannot calculate on any protection from their sanitary conditions.

The cholera ohtbreak at Karachi is rapidly subsiding.

June 7th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Deaf and Dumb.

THE picnic of deaf-mutes to Hardacre Crags, near Hebden Bridge, on June 24th was probably the most remarkable that that spot, beloved of excursionists, has ever attracted. The advent of about 400 deaf-mutes, gathered together from most of the towns in Lancashire and Yorkshire where there are any organisations for their welfare, with their silent but vigorous gesticulations of arms and fingers and their curiously alert facial expressions, would arrest attention anywhere, but in so small a place as Hebden Bridge it would seem as if the whole locality had become deaf and dumb. After tea a meeting to discuss questions specially affecting the deaf and dumb was presided over by Mr. Heriot, President of the Institute of Missionaries to the Deaf and senior missionary to the Manchester division. To most of us it would be a curious sight to see what is usually termed an audience swayed and excited by a silent orator, but some important resolutions were spoken to and put to the meeting, and the speeches concerning them were evidently understood as well as we understand the spoken word. One resolution protested against "the indiscriminate employment of the pure oral method in the instruction of deaf children" and recommended the "combined system" which makes use of hands and fingers as well as lips. Instances were given of the ludicrous mistakes often made with the pure oral method. It was said that the "oral graduates" could not, of course, understand signs and finger-spelling nor could they speak so as to be generally understood or read from the lips "any but the simplest and most conventional phrases in which they had been drilled at school." Instead, therefore, of being above the average of the silently taught deaf-mute they were in every way inferior to him. The missionaries and teachers say that all the "congenitally deaf" and at least 50 per cent. of the "adventitiously deaf" are not fit subjects for the pure oral method. They certainly are the most likely to know. Mr. Spence, missionary to the East London deaf and an ex-teacher, among several others, wrote giving it as his opinion that pure oral teaching should be abolished as a waste of time and as cruel as unnatural. He referred to the physical torture from instruments being pushed down the children's throats and to the danger of communicating disease unless the instrument was washed in a disinfectant after each examination. This statement savours of exaggeration or ignorance, for as the laryngoscope seems to be indicated its use in ordinarily skilful hands is neither cruel nor painful, and if these examinations are made by medical men, as, of course, they ought to be if made at all, care as to disinfection will be taken as a matter of course. Another resolution deprecated attacks on the missions and adult societies "by advocates of the pure oral method on the false and absurd pretext that they are, through favouring the inter-marriage of deaf persons, the most fruitful source of congenitally deaf children." The meeting places were looked upon as substitutes for public-houses and are certainly preferable to them, and the consensus of opinion was to the effect that the children of deaf-mutes were no more frequently deaf than those of people who were not deaf, but rather the other way, and that there was no valid objection to the intermarriage of the deaf except in the case of cousins. Another

argument much dwelt on was that marriages between deaf-mutes were happier than those where only husband or wife was deaf. There are a sufficient number of deaf-mutes in the community to make the method of teaching important. The "pure oral" or lip-reading system sometimes is a great success, but it does not seem wise to exclude signs and finger language altogether, as is done in many institutions for the education of deaf children and, it is said, in nearly every board school deaf class in the kingdom. The deaf and dumb themselves know what suits them a good deal better probably than those who cannot feel their infirmity.

Manchester and Salford Sanitary Association.

At the last meeting of the committee of the Manchester and Salford Sanitary Association a resolution was passed regretting that the city council "did not see its way to sanction the proposal made at the last meeting of the council to obtain notification of cases of phthisis in the city and earnestly desires that in the interests of the public health further efforts be made to secure this important provision." The notification of phthisis is very desirable, but the onset of the disease is often so insidious that the exact time for notification will be doubtful, and the difficulty will not be lessened by patients and their friends being naturally averse to its victims being treated as lepers. To be successful notification must be carried out with great care and consideration. Winter lectures in poor districts are to be given and it was decided to resume their publication, as in years gone by. Of late their publication had fallen into abeyance. It was also decided that the association would coöperate with the movement for the creation of a Ministry of Health.

The Corporation Gas Products.

As stated in a previous letter, it is feared that the Manchester Gas Committee may decide not to manufacture their own sulphate of ammonia as the inhabitants of one district much afflicted by chemical nuisances fondly hoped they would. A deputation from a large firm which has dealt largely with the gas products of the corporation had an interview with the committee on June 23rd, as they were anxious to continue "the servants of the corporation." However, the answer of the chairman shows that hope need not yet be abandoned. He said that even if the present system was continued the contracts would be open to competition. The lowest offer will probably win if tenders are asked for, but the firm giving the best guarantee for the avoidance of nuisance should be chosen.

Changes in the Infirmary Staff.

At the meeting of the infirmary board on June 26th the appointments of Dr. Leech as honorary consulting physician and of Dr. Little as honorary consulting ophthalmic surgeon to the infirmary were unanimously agreed to. Dr. Dreschfeld now becomes senior physician, Dr. Judson Bury becomes full physician, and Dr. E. S. Reynolds has been elected to the vacant assistant physicianship. Dr. Little has been succeeded by Dr. A. Hill Griffith who has for many years been one of the surgeons to the Manchester Royal Eye Hospital. The loss of men like Dr. Leech and Dr. Little from the active staff is a severe one, but the "fixed period" comes inexorably and it is a matter for congratulation that they are followed by those worthy of the succession.

June 27th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Prevention of Tuberculosis in Edinburgh.

As was reported some weeks ago a conference took place in Edinburgh recently between the Public Health Committee of the Edinburgh Town Council and representatives of the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Medical Faculty of the University of Edinburgh on the question of the prevention of tuberculosis. The Public Health Committee expressed the wish that they might have some guidance given them from the heads of the medical profession in Edinburgh as to the scope and limits of the duty of the municipal authorities in the matter of the prevention of tuberculosis. The medical men were asked to limit their recommendations to the question of pulmonary consumption. The following is an abstract of the proposals submitted to the Public Health Committee by the joint committee of the representatives of the Medical Faculty of the University, the Royal College of Physicians of Edinburgh, and the Royal College of Surgeons of Edinburgh.

1. *General Sanitation.*—The joint committee strongly endorsed the recommendations made on this point by the medical officer of health. It was in this direction that municipal action was likely to be immediately most effective.

2. *Notification.*—The great desideratum in respect of the question of the prevention of consumption was admitted by all who had studied the subject to be the obtaining of fuller information regarding the distribution of the disease. The one method of obtaining something like complete information would be compulsory notification, and it appeared to the committee that compulsory notification should be adopted as soon as medical and public opinion was ripe for it. This method, however, appeared to them impracticable under existing conditions. The question which in these circumstances presented itself was whether any means could be devised whereby, short of compulsory notification, effective information could be made available to the local authorities regarding the distribution of consumption within the city. Such information was specially to be desired in the case of the poorer part of the population. It had to be borne in mind that whatever method be followed the information must be given with the patient's consent, as otherwise there would be either a contravention of existing enactments or a breach of professional confidence. Any method could only be efficacious if directly controlled by the medical officer of health for the city. Of the various schemes suggested the joint committee had had four under consideration: (*a*) Information might be provided to the authorities by existing medical charities in the city as to the names and addresses of persons applying to these institutions for the treatment of consumption. This information, of course, could only be given with the patient's sanction, but the committee believed that sanction would be readily obtained were the patient told that thereby the assistance of the corporation in the treatment of his case might be rendered available. (*b*) The corporation might establish a dispensary for the out-door treatment of consumption, towards which consumptive patients might be directed from the other medical charities in the city. In this way the patient would himself furnish the city authorities with the desired information. The justification of the use of public money for such a purpose lay in the fact that the treatment was undertaken primarily in the interests of unaffected citizens, just as in the case of the hospital for infectious diseases, which was maintained at the public expense. Unlike the infectious fevers an isolation hospital was not necessary for consumption, as the treatment could be effectively carried out at home. (*c*) The medical officer of health might invite the coöperation of the friendly and sick societies throughout the city, with a view to their affording access to the names and addresses of such of their members as had been returned as suffering from consumption. This, however, would provide only a partial return. (*d*) The corporation might establish arrangements for the examination of suspected sputa, the sputa only being received for examination on the understanding that the patient had consented to its transmission. By this means a list of affected cases would come confidentially into the hands of the corporation. Relief given to patients in the case of the second scheme being adopted would depend on the nature of the case. Patients might be treated either as out-patients receiving advice at the dispensary or might be seen in their own homes, while others might be directed to one or other of the institutions available for the indoor treatment of consumption. The expenditure in connexion with such a scheme would be small compared to the benefit obtained.

3. *Hospital accommodation.*—It was impossible to provide hospital accommodation for all consumptive patients. It had therefore to be considered whether it was the duty of the corporation to supply any hospital accommodation for such patients, and if so at what stage of the disease. The joint committee had concluded that it was well within the scope of municipal duty to provide means of isolation for patients who, in the words of the medical officer of health, "imperfectly nursed in their ill-ventilated and too often over-crowded homes, are constant sources of danger to the community." The committee considered that such provision should be made by the city, but that the use of the hospital should be restricted to cases in the advanced stage of the disease.

4. *Other preventive measures.*—These would include: (*a*) The diffusion of information regarding the nature and preventability of consumption. (*b*) Regulations might be framed by the corporation forbidding expectoration in the streets and in public conveyances. Spittoons might be placed in public places. (*c*) The corporation should provide for the accurate examination of all suspected discharges free of cost. (*d*) Disinfection of apartments, especially after death, or removal, should be undertaken by the corporation at the city cost. (*e*) Milk and meat supply. The risk of infection by way of meat might in Edinburgh, thanks to the vigilance of the medical officer of health, be neglected. The danger of infection by milk was greater. Apart from fresh legislation the danger might be obviated in more than one way. For example, consumers might be recommended to insist on receiving only such milk as was supplied by dairies the cows in which had been subjected to the tuberculin test, the public being informed as to the dairies which satisfied these conditions. This might readily be made a condition of supply in respect of public institutions, schools, or even families. Further, guardians of the young might have their attention drawn to the fact that all milk might be rendered free from the consumptive taint by boiling it for one minute or by keeping it at a lower temperature—e.g., 70° C.—for half an hour.

Aberdeen Volunteer Medical Staff Corps.

In accordance with recent orders by the War Office for an increase of non-commissioned officers and men in all the 14 companies of the Volunteer Medical Staff Corps throughout the country to act as drivers, in order to make each company independent of the Army Service Corps in regard to transport, &c., an increase of four sergeants and 28 rank-and-file is required for the Aberdeen Company, which is detailed to provide two field hospitals. Staff Sergeant-Major Humphreys is enrolling recruits accordingly. Two general service waggons, 12 horses, &c., will also be required.

Association of Sanitary Inspectors of Scotland.

The annual congress of this association was held in Inverness on June 23rd, when many papers on a great variety of subjects were read.

Scottish Inter-University Boat-race.

On June 23rd a boat-race was rowed on the river Dee at Aberdeen between teams representing the Universities of Edinburgh and Aberdeen respectively. After a good race Aberdeen came in first by a length and a half.

June 27th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Poor-law Medical Officers in Far-away Districts.

AT the weekly meeting of the Coleraine Board of Guardians held on June 24th, Sir H. H. Bruce presiding, a letter was read from the Local Government Board declining to sanction the proposed salary of £75 a year to the medical officer of the Portstewart Dispensary District. Mr. Samuel Heylet is reported to have said that he saw no reason why they should go beyond £75, *as the district was a thinly populated one.* Of course this was in itself a reason why the medical officer's salary should not be too small. It did not, however, prevail with Mr. Heylet's followers who passed his resolution in favour of £75 a year. The Local Government Board will doubtless refuse to permit a less salary to be fixed than £90, and they have power to do this by sealed order. The board of guardians of Glenties, county Donegal, made a new departure in May last by framing a resolution requiring future medical officers to have a competent acquaintance with the Irish language. This accomplishment is not to be paid for inasmuch as the salary remains as before at £100. A vacancy exists at present in the Dungloe district of the Glenties Union. It will be interesting to note whether the guardians will succeed in obtaining a competent Irish-speaking medical officer.

The Richmond Hospital, Dublin.

At a special meeting of the Board of Governors of the Richmond, Whitworth, and Hardwicke Government Hospitals a resolution was adopted gratefully acknowledging the receipt of £20,000 from the trustees of the late Mr. James Weir. The governors further resolved to name one of the wards in the new Richmond Hospital the "Weir Ward" and, to erect therein a tablet recording the circumstances of the bequest.

The Workhouses and Trained Nurses.

The determination of the Local Government Board to have a trained nurse in every workhouse is causing a great deal of friction in various parts of the country as is exemplified at Limavady. The guardians of that place advertised for a nurse trained according to the rules as laid down by the Local Government Board and they offered a salary of £35 yearly, but no one applied. They then decided not to advertise again, and on the Local Government Board advising them to do so at an increased salary they declined. The Local Government Board then wrote to the medical officer of the Limavady Workhouse (Dr. Watson) saying that under these circumstances and considering that at present there was only one untrained nurse for both day and night duty they would hold him accountable for the nursing arrangements of the infirmary. As, in their opinion, the appointment of at least one trained or highly qualified nurse was necessary he should furnish forthwith a requisition to the workhouse master for such a nurse. Further, the Local Government Board wrote to the master that they would hold him responsible for obtaining (on receipt of a requisition from the medical officer) the services of a trained and qualified nurse. The whole matter came before the Limavady Guardians on June 26th when the master reported that he had received a requisition from the medical officer for a nurse and that he was obliged to comply with that under a penalty, it being, in fact, a sealed order. Extremely strong remarks were made with reference to the conduct of the Local Government Board, the opinion being expressed that the boards of guardians should petition Parliament to restrain the powers of the Local Government Board or to have some court of appeal constituted to decide differences of view between boards of guardians and the Local Government Board. It was finally decided to advertise for a nurse, naming no salary but asking applicants to state on what terms they would come, in order that they might see what trained nurses really wanted. Dr. Clibborn, the Local Government Board's medical inspector, having recommended the appointment of a midwife for the Limavady Dispensary District that Board asked the guardians to reconsider this question. The guardians decided to take no action and to inform the Local Government Board that they did not consider a midwife necessary.

Meeting of the Irish Medical Association in Cork.

The annual meeting of the Irish Medical Association was held last week in Cork and was a distinct success. The Examination Hall of Queen's College was placed at the disposal of the Association and a large gathering assembled there under the presidency of Sir Thornley Stoker, the outgoing president, who after some formal business vacated the chair in favour of Dr. Nathaniel J. Hobart of Cork, the president for the current year. Amongst the resolutions adopted were the following:—

That the council be instructed to take every advisable step to procure the passing of the Medical Officers' Superannuation Bill during the next session of Parliament.

That it be urged upon the Local Government Board that the want of an allowance for the cost of travelling on dispensary duty is a grievous injustice to the sick poor as well as to the medical officer.

That the council be requested to use every effort to obtain an amendment of the Local Government Board rules relative to the issue of tickets so that medical officers be protected against the hardship of visiting tickets being presented at all hours of the day and night when there is no necessity for urgency.

That the best thanks of the Association be given to our late President (Sir Thornley Stoker) for the manner in which he has filled that office during the past year and for the valuable influence which he has given and the zealous interest which he has taken in the efforts made for the removal of grievances which affect the Poor-law Medical Service in Ireland.

Sir Rowland Blennerhassett, President of Queen's College, then welcomed the members of the Association at his official residence, after which the dinner of the Association took place at the Victoria Hotel. The Mayor, in responding to the toast of his health, referred to the great and disinterested assistance given by the local medical profession to the corporation in their endeavours to promote the sanitary improvements of the city, and Mr. Maurice Healy, M.P.—a guest—in a very able speech said that as the result of his Parliamentary experience he could tell them that if the medical profession wanted any grievances to be rectified they could do so only by agitation. The toast of "Our Guests" was responded to by Sir Rowland Blennerhassett,

by Dr. J. W. Moore (President of the Royal College of Physicians of Ireland), by Mr. R. L. Swan (President of the Royal College of Surgeons in Ireland), and by Sir Thornley Stoker. Sir Rowland Blennerhasset alluded to the influence of universities on the progress of civilisation and mentioned that one of the most successful universities was one which was originally established for the cultivation of medical science. The President of the Royal College of Surgeons in Ireland made the important announcement that his College had in contemplation the holding of some of their examinations in Cork with a view to facilitate students in obtaining their qualifications at home instead of seeking them in Edinburgh. The President of the Royal College of Physicians of Ireland referred to the high standard which his College always sought to maintain, and Sir Thornley Stoker as an examiner of the Royal University spoke of the careful training which Cork students received. He also dwelt on the importance of the Association concentrating its efforts to procure for Poor-law medical officers superannuation when old age or infirmity rendered them inefficient for the proper discharge of their duties. Professor Corby, in proposing the health of the new President of the Association, alluded to the genial relations which had always existed between Dr. Hobart and the other members of the profession in Cork and suggested that the Association, though rightly giving considerable attention to the grievances of Poor-law medical officers, might go further afield and take up such questions as the abuses of club practice which concerned large numbers of the medical profession all over the empire. The President, in reply, referred to the gradual improvement which had taken place in the position of Poor-law medical officers since he had commenced practice and for the guidance of his junior colleagues he mentioned that he largely attributed his own success as a medical man, such as it was, to his work among the poor. On the following day the members of the profession in the city and county entertained their guests on board the s.s. *America*. The Royal Cork Yacht Club Regatta was in progress and those on board the steamer on its course out to sea got a fine view of the scenery and of the racing. Afterwards the steamer went up the East Ferry River where lunch was provided. This was the sixtieth annual meeting of the Association and it was the first held outside Dublin. It was the decided opinion of all who took part in it that the new departure was an undoubted success.

Belfast Board of Guardians: Report of the Inspector.

In his report on the Belfast Workhouse Mr. Agnew, Local Government Board inspector, states that there is still insufficient lavatory accommodation for the infirm and healthy. There is no bathing accommodation for 300 of the former class. The water is wholesome but the supply to the healthy nursery and infirmary is inadequate and the closets are flushed very inefficiently and smell offensively. There are upwards of 2000 sick in the infirmary besides infirm and infants numbering about 900. The medical staff consists of two visiting officers and four resident officers; and Mr. Agnew points out that the visiting staff is inadequate to give necessary attendance, and he believes that too much responsibility is cast upon the resident medical officers. He recommends the appointment of two more visiting medical officers, each of whom would have the assistance of a resident officer. There are 130 pauper attendants, 100 of whom act as servants in the various wards of the infirmary and who are constantly in the wards. This is in violation of the Board's nursing order. He recommends that tuberculous patients should have separate accommodation and not be scattered amongst other patients in the wards. The committee of the guardians agree with Mr. Agnew as to the congested state of the accommodation for the aged and infirm and they heartily agree with his remedy which is to transfer the lunatic poor to buildings to be provided by the city corporation. This would give the guardians more room for the classes now so crowded together. The infirmary committee is to answer the question of increasing the medical staff. They approve of the suggestion to isolate the phthisical patients. They think that a special committee of ladies should be appointed to look after the orphan and deserted children who are boarded out. The real fact seems to be that the congested state of the workhouse is at the root of all the evil which Mr. Agnew mentions and to carry out his reforms will mean the expenditure of a great deal of money and this leads to increase of rates which is naturally most unpopular.

Maintenance of the Lunatic Poor of Belfast.

A conference was held on June 19th between the finance committee of the county borough of Belfast and a deputation from the Belfast Board of Guardians regarding the maintenance of the lunatic poor of the city. It was urged by the representatives of the guardians that the city corporation should take advantage of the provisions of the Local Government Act to provide accommodation for the poor who are located in the workhouse. At the present moment the overcrowding in several departments of the workhouse is very great and it could be best relieved, the guardians think, by the lunatic department being vacated and placed at the disposal of the guardians for the accommodation of other classes of inmates. Further, a capitation grant of upwards of £2000 a year would be received by the city corporation and this would go to defray the cost of maintaining the lunatics. Under existing arrangements the guardians cannot obtain the grant and the only way in which it can be obtained is by the transfer which the guardians urge the corporation to adopt. In this way, also, a saving in the rates would be effected and better accommodation could be provided for the lunatics. It is stated that as a result of this conference there is a strong and growing feeling that the city corporation should take advantage of the provisions of the Local Government Act in the interests both of the ratepayers and of the lunatics.

June 27th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Observations on Imperfectly Developed Vaccine Vesicles.

ON June 20th M. Hervieux read at the Academy of Medicine a report based on certain observations made by M. Carteret of the Army Medical Service, these observations being to the effect that so-called imperfect vaccination does not altogether deserve this description. The observations consisted in collecting from a certain number of soldiers the liquid which has hitherto been considered as derived from unsuccessful vaccination and in vaccinating a heifer with it; a second heifer was then vaccinated with the lymph from the first one, in order to ascertain whether in its transmission the lymph had preserved all its activity. The lymph obtained from the second heifer was used for the vaccination of infants and adults. In this way it was proved that the lymph taken from the eruption of imperfect vaccination had regained all its active qualities. The so-called imperfect vaccination is therefore not, strictly speaking, unsuccessful, since notwithstanding its incomplete development it can confer immunity on a susceptible subject.

High Frequency Electric Currents in Arthritis.

At the meeting of the Academy of Sciences held on June 26th M. d'Arsonval read (for Dr. Apostoli) a paper on the Therapeutic Action of High Frequency Electric Currents in Arthritis. Dr. Apostoli considers that although static electricity affords the most active electrical means of treating hysterical conditions, yet the high frequency current, without being a panacea for all cases whatever, is very efficacious against the principal pathological manifestations of arthritis, for it acts on the cells and powerfully modifies the general nutrition, correcting and increasing it at the same time.

Service Médical de Nuit.

M. Bezançon of the Prefecture of Police has published in the *Revue Municipale* an article on the Service Médical de Nuit of the city of Paris. This service was established in 1876 by M. Léon Renault, Prefect of Police. In 1876 the sum allocated for this purpose by the municipal council was 32,000 francs. In 1882 it rose to 60,000 francs, in 1894 to 130,000 francs, and it has now risen to 145,000 francs. The number of visits has therefore increased from year to year. Arrangements for supplying medicines at night were first made in 1886 as the result of a recommendation made to the municipal council by Dr. Navarre. Druggists who wish to engage in this work enter their names on a list kept at the police-station of their district and the prescriptions written by the medical men of the Service de Nuit are taken to the pharmacy nearest to the patient's residence. The prices paid are those laid down by the Chambre Syndicale. The expenses

of this part of the service were 3300 francs in 1886 and are now 35,000 francs. According to the statistics of the first quarter of 1899 there have been 214 confinements attended during that period and 3843 patients have received treatment, the corresponding average for the last 10 years having been only 3021.

Disturbances at the Faculty of Medicine of Lyons.

The prevailing excitement has affected the Faculty of Medicine of Lyons, and the lectures of Professor Augagneur have been interrupted by disorderly scenes. Professor Augagneur's students for the first time showed their approval of the active part which he has taken in the public manifestations either in favour of Dreyfus or in honour of M. Loubet, the President of the Republic. On the following day a number of persons, for the most part not belonging to the Faculty of Medicine, made their way into the lecture-room and created such a disturbance that the lecture could not be delivered. M. Lortet, dean of the Faculty of Medicine, thereupon had a notice posted up stating that by order of the rector, who is the president of the University Council, the lectures on Surgical Pathology would be discontinued from June 10th until further notice.

The State and the Cost of University Education.

In the June number of the *Lyon Médical* a computation is made of the cost of a student's education in the French universities. The 15 universities of Paris and the provincial cities have 27,080 students, of whom 12,057 are in Paris. The yearly outlay of the universities is 13,859,500 francs (£554,380). The instruction of each student, therefore, costs 511 francs (£20 8s.) per annum on an average. The outlay is partially provided for by 2,093,700 francs from the university revenues, and by bequests, donations and sundry sources of income amounting to 1,511,600 francs; the State pays the balance of 10,254,200 francs, or 378 francs (£15) for each student per annum. The University of Lyons, which has 2335 students, spends 1,310,600 francs, so that the education of each student costs 561 francs (£22 8s.). Towards this amount the university revenues contribute 209,460 francs, or less than 100 francs (£4) for each student; the balance is paid by the State.

The Publication of Medical Observations.

The conference of barristers of the Paris Court of Appeal has been discussing the following question: Does the publication in a work by a medical man of observations made on a hospital patient constitute the offence of violation of professional secrecy as defined by Article 378 of the Penal Code? The conference took the affirmative view.

Motor Cars for Medical Men.

M. Marcel Baudouin has published in his journal an article on this subject and has hit upon an original proposition. At a visit which he made to the international exhibition of motor cars at the Tuileries, an exhibition which draws every day an enormous number of persons, M. Baudouin's chief object was to find an ideal motor car for a medical man, one which would allow him on reasonable terms to replace the time-honoured brougham (cabriolet) by a quicker and more modern conveyance. Not having this year found what he wanted he proposes to establish a Medical Motor Car Society which will let out to its members (medical practitioners) vehicles of the type which each happens to prefer.

June 27th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Poisoning by Common Sorrel.

SUCH cases are of very rare occurrence. One of the few to be traced is reported by Dr. Suckling in THE LANCET of July 31st, 1886. Professor Eichhorst of Zürich at a recent clinical meeting reported a case of a boy, aged 12 years, who was taken ill on April 26th and who died on May 5th, 1899. The illness commenced with gastro-intestinal symptoms and hæmorrhagic nephritis, and was diagnosed on the first day. The patient eventually succumbed to uræmia. On the day before being taken ill the boy had eaten large quantities of common sorrel (rumex acetosa), and the most careful questioning of the relatives and the attending physician did not bring to light any other etiological factor. Professor Eichhorst mentioned that there are no cases to be found in German literature, but that French veterinary surgeons report fatal cases in horses due to over-consumption of this herb. Under these circumstances it seems particularly important that the public should be made aware of these facts, as common sorrel is considered innocuous and happens to be a favourite dish of boys and girls in early summer.

June 27th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

American Honours to Professor Angelo Mosso.

THE Senatus Academicus of the Clark University, Worcester, Massachusetts, which is about to commemorate the anniversary of its foundation, has invited this eminent Italian physiologist and man of letters to deliver a lecture on a subject specially chosen for the occasion and dealing with a scientific problem of present and universal interest. Worcester is a city of some 80,000 inhabitants and its "Clark University" has the distinction of giving post-graduate instruction to those already qualified to teach mathematics, physics, chemistry, biology (including anatomy, physiology, and palæontology), psychology (including neurology, anthropology, criminology, and the history of philosophy), and pædagogy or educational method in its widest significance. Such is the seat of learning which has singled out Professor Mosso to represent before a select audience of the New World the latest scientific achievement of the Old; and Italy, to judge from her leading organs, professional and lay, is deeply sensible of the honour. Professor Mosso started for the United States on June 20th and has chosen as his theme "I Processi Psichici ed il Movimento" (the Psychic Processes and Movement). The language which he will employ on the occasion will (by arrangement with the Senatus) be the German, of which he is a master.

Important Hygienic Precaution.

Sulphate of copper to the amount of 320 cwt. annually is consumed in Italy to protect the vines from the peronospora. Vine-leaves, in such constant use as wrappers for butter, cheese, fresh fruits, &c., are thus impregnated with a salt retaining much of its toxic power and conveying its characteristic poison in serious measure to the public consumer. The sanitary authorities have therefore issued an order "forbidding the contact of such leaves with meat, fresh or cured, with fish (under similar conditions), with butter, cheese, and all such dairy produce, with fresh fruits, such as figs, peaches, &c.," contravention of the order being rigorously punished by law.

The Pope "in Villeggiatura."

At the instance of his body physician, the Commendatore Dr. Lapponi, arrangements are all but completed for the Holy Father's resuming *la consueta villeggiatura nel giardino* (the usual summer sojourn in the garden) in the well-known pavilion adjacent to the Tower of Leo IV. His Holiness enjoys wonderfully good health, but owing probably to the excessive heat which set in with June he has been complaining of want of appetite. The fresh air of the gardens and the post-meridian sea-breeze daily from the Latin shore, of which the Vatican hill has the full benefit, will doubtless have their anticipated effect in removing the anorexia.

June 21st.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Plague in Alexandria.

THE 32 cases of plague which seem to have excited more alarm in Europe than in Egypt have been spread over the two months of May and June and have not only been limited to one town but chiefly to one dirty quarter of that town, a native bazaar not far from the Rue des Sœurs and the Place Muhammad Ali. The victims have all sprung from the lowest class of natives and the lowest Europeans who lead a similarly unclean life. Though none of us would yet dare to dogmatise about plague, the present localised epidemic confirms the theory that it is a place infection which can

be eradicated by great attention to cleanliness. Moreover, we are now approaching St. John's Day (June 24th), when plague used always in old days to die out of Egypt. The Sanitary Department is still busily engaged in isolating cases, in watching the friends of those affected, and in cleansing the habitations and all the possessions of the patients. Two policemen (not on plague duty) and one hospital orderly have contracted the disease. The municipality of Alexandria has passed several sensible rules—to send all suspicious cases of plague to the Government hospital, to isolate the families of the patients at the Gabbari lazaretto, to prohibit carpet-beating (because it is believed that the disease was perhaps introduced by means of rugs or blankets), to rail round all waste plots of ground, to thoroughly inspect all fruits and provisions, and to have all the native bazaars cleaned out. Bulletins have been published daily both in Cairo and in Alexandria detailing the progress of the cases and no panic has occurred. £20,000 have been voted as a special grant by the Caisse de la Dette Publique and may be expended by the Sanitary Department on plague prevention.

Sanitary Law.

The plague has already done one good thing, for it has emboldened the Egyptian Government to pass a measure which the sanitary officials proposed some time ago and which did not then meet with approval. The new Khedivial decree lately published in the *Journal Officiel* and passed by the International Court of Appeal of the Mixed Tribunals gives sanitary officials the right of entry into any suspected house during an epidemic of plague or cholera, but in the case of Europeans notice must at the same time be sent to their consul. The patient when found can be isolated in his own house, if possible, or removed to a hospital for infectious disease. The family of the sick man may, if necessary, be isolated and watched for a few days. The sanitary officials disinfect houses of the poor gratuitously and may act in the case of the rich who neglect this duty for themselves. The police will now see that funeral wakes are not held in the infected house.

Soudan Law.

One of the most fascinating occupations for an autocratic Governor-General must be to make laws after his own fancy. The number of the *Journal Officiel* to which I have just referred also contains (in English) the Khartoum, Berber, and Dongola Town Lands Ordinance; a second ordinance for regulating the royalties on gum, ostrich feathers, ivory, and indiarubber; a third for settling disputes as to land; another for regulating the carrying of firearms; another for arranging the land tax and date tax; and one more for licensing the sale of alcoholic liquors. The fee for a liquor licence is £50, and the holder of the licence may be subjected to special restrictions as to the manner of conducting his business and may be prohibited from selling to any specified persons or classes. The renewal of any licence may be arbitrarily refused without any reason being stated. The punishment for trading in wines, spirits, or other alcoholic liquors without a licence is £100 and confiscation of all liquors. It is hoped that these stringent laws will prevent an army of Greeks from opening liquor shops and demoralising the natives.

International Quarantine.

Nothing exemplifies the nervous excitability of a nation better than the quarantine laws which it makes. Malta and Gibraltar, like Naples, are notoriously frightened at even the rumour of disease. At Malta this month Egyptian and Indian passengers are not allowed to land, cargoes of tea are refused, and the mails are only received by an intrepid official who stands behind a grating with his sleeves rolled up to avoid all unnecessary contact with the mail bags which left Calcutta 25 days previously. English officers and their families are, indeed, allowed to embark at their own risk on a Peninsular and Oriental Company's vessel which can show a perfectly clean bill of health, but in this case the steamer must send her own boats to the quarantine harbour for them, for no boat from the island is allowed to leave the shore. Moreover, the ship's boats must go through the farce of disinfecting before they leave the ship. It is wonderful how successfully the Maltese succeed in stifling their own chances of trade. Gibraltar has at least the merit of being ashamed of its own stringent regulations. There quarantine is rendered necessary because Spanish workmen are needed on the Rock and Spain will not provide them unless Gibraltar consents to follow Spain's views on quarantine. These countries seem to regard the Venice Convention as a farce, and invent rules of their own for clean ships as they please. But in France matters have at last become a little more civilised, and Marseilles in consequence is hugging itself at getting the trade away from Malta and Italian ports. Passengers from Alexandria for Marseilles are subjected very rightly to a rigorous medical examination, and the luggage of the deck passengers is disinfected. Marseilles keeps the steamer, if clean, in the quarantine harbour for a few hours in order to disinfect the ship and to sterilise soiled linen. The passengers are then allowed to take the train to any part of France, but for 15 days they still remain under police and medical inspection at their own homes. Thus France to-day treats a clean ship coming from a suspected port just as England does an infected ship, and yet this is an improvement on the old lazaretto. Similar passengers leaving Alexandria for London are relieved to find that the only formality is one question from the port officer to the ship's doctor.

Infectious Diseases.

Small-pox has been notified this month from 20 country districts, but there are only 100 cases altogether. There are also more than this number of cases of typhus and relapsing fevers reported from six districts and 34 cases of measles from four provinces. These figures are by no means excessive at this time of the year.

June 20th.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the examinations for medical and surgical degrees, Easter term, the following candidates were successful:—

FIRST EXAMINATION.

Part I., Chemistry and Physics.—E. D. Anderson, Pembroke; H. B. Atkinson, Trinity; A. L. Baly, Emmanuel; J. B. Banister, Jesus; J. R. Beale, Clare; J. W. B. Bean, H. Selwyn; A. S. Burgess, Caius; H. C. Cameron, St. John's; M. A. Cassidy, Clare; J. W. Chell, St. John's; R. P. Cockin, Caius; W. I. Cumberlidge, Christ's; G. E. Davidson, Caius; G. B. Davis, B.A., Corpus Christi; T. Drysdale, Jesus; L. Dukes, Trinity; T. W. N. Dunn, Caius; W. G. P. Ellis, M.A., Catharine; T. I. Faulder, B.A., Clare; C. F. Fothergill, Emmanuel; B. Garnsey, Caius; T. R. Glynn, Clare; J. R. C. Greenlees, St. John's; C. R. F. Hall, Trinity; E. C. Hardwicke, Corpus Christi; W. Hastings, Christ's; D. Humphrey, Sidney Sussex; F. A. Juler, Trinity; J. C. Lawton-Roberts, Clare; R. Lloyd, Emmanuel; G. H. K. Macalister, St. John's; J. T. Macnab, Christ's; M. McPherson, Clare; H. F. Marris, Caius; S. H. Nixon, Emmanuel; S. A. Owen, Trinity; C. E. Palmer, Caius; C. W. Ponder and R. Puttock, Emmanuel; W. H. Rayner, Trinity; W. H. Robinson, Downing; F. Shingleton-Smith, King's; C. M. Stevenson, St. John's; B. H. Stewart, B.A., Jesus; H. C. Turner, Emmanuel; W. E. Weber, H. Selwyn; Arthur Wilkin, Kings'; E. K. Williams and R. G. Williams, Caius; J. K. Willis, Queen's; C. D. Wilson, M.A., Corpus Christi; W. H. Woodburn, Christ's; and F. Worthington, St. John's.

Part II., Elementary Biology.—G. D. Alexander, Caius; E. D. Anderson, Pembroke; H. M. Aviss, Downing; J. G. Back, Trinity Hall; A. S. B. Bankart, Trinity; S. Barradell-Smith, St. John's; J. R. Beale, Clare; J. W. B. Bean, H. Selwyn; P. Black and A. S. Burgess, Caius; H. C. Cameron, St. John's; M. A. Cassidy, Clare; D. A. Chamberlain, Caius; J. W. Chell, St. John's; R. P. Cockin, Caius; S. B. Couper, B.A., Clare; G. L. Cox, Christ's; H. P. Crampton, Clare; W. I. Cumberlidge, Christ's; N. R. Cunningham, Caius; H. M. Davies and L. G. Davies, Trinity; H. S. Dickson, Christ's; T. Drysdale, Jesus; L. Dukes, Trinity; T. W. N. Dunn, Caius; W. G. P. Ellis, M.A., Catharine; R. G. Elwell, B.A., Trinity; H. J. A. Evans, Clare; A. H. Fardon, Christ's; T. I. Faulder, B.A., Clare; A. T. Field and C. F. Fothergill, Emmanuel; B. Garnsey, Caius; T. R. Glynn, Clare; S. Gooding, St. John's; V. W. Hardie, Trinity Hall; E. C. Hardwicke, Corpus Christi; W. Hastings and G. Holroyd, Christ's; E. C. Hughes, Clare; D. Humphrey, Sidney Sussex; C. H. T. Ilott, Caius; R. W. Ironside, Pembroke; C. L. Isaac, St. John's; C. King, Trinity; J. Lambert, Downing; J. C. Lawton-Roberts, Clare; C. S. Lee, Caius; R. Lloyd, Emmanuel; M. J. Logan, Downing; K. Lucas, Trinity; G. H. K. Macalister, St. John's; S. M. Mackenzie, Trinity; J. T. Macnab, Christ's; C. M. Macnaghten, Trinity; M. McPherson, Clare; E. H. Mayhew and S. H. Nixon, Emmanuel; S. A. Owen, Trinity; C. E. Palmer, P. E. Parkinson, and M. Phillips, Caius; C. W. Ponder and J. M. Postlethwaite, Emmanuel; H. T. Rich, Pembroke; R. F. Robinson, Trinity; H. Schwann, King's; F. F. Shout, Caius; K. S. Singh, Pembroke; P. S. Stephens, Trinity; C. M. Stevenson, St. John's; L. St. G. Stubbs, Christ's; H. C. Turner, Emmanuel; J. D. C. White, M.A., Trinity; J. K. Willis, Queens'; and F. Worthington, St. John's.

SECOND EXAMINATION.

Part I., Pharmaceutical Chemistry.—C. Akerman, Caius; C. B. M. Aldridge, Christ's; C. A. Anderson, B.A., Trinity; H. J. Beddow, Christ's; H. J. D. Birkett, Trinity; G. T. Birks, King's; W. F. Buckle, B.A., G. V. Bull, B.A., and S. H. Clarke, Caius;

D. H. W. Cotes-Preedy, Emmanuel; G. Cowan, King's; W. L. Cripps, Trinity; A. H. Crossley, Clare; S. Dixon, Trinity; A. B. Dunne, B.A., Queens'; G. G. Ellett, B.A., Catharine; H. Falk, King's; H. N. Fink, B.A., Trinity Hall; A. D. Fox, B.A., Emmanuel; D. H. Fraser, Caius; H. R. Graham, Jesus; J. E. Hailstone, B.A., H. Selwyn; J. M. Hamill, Trinity; L. Harke, B.A., Pembroke; A. F. Heald, non-collegiate; F. A. Hepworth, St. John's; E. Higson, Magdalene; H. F. Horne, King's; A. B. Howitt, Clare; W. E. Hume, Pembroke; F. A. G. Jeans, St. John's; F. W. Leathart, B.A., Clare; R. O. Lee, B.A., Emmanuel; R. Luker, Pembroke; C. G. Martin, B.A., Downing; C. D. Mathias, B.A., and R. C. Mott, Trinity; W. H. Newton, Emmanuel; L. Orton, B.A., St. John's; H. B. Owen, Caius; B. H. Pain, Emmanuel; N. C. Patrick, B.A., Christ's; O. V. Payne and J. E. Pellow, St. John's; D. Pennington, B.A., R. N. Poignand, and J. C. A., Rigby, B.A., Caius; C. T. Y. Robson, M.A., St. John's; J. Sharples, B.A., Caius; L. Singleton-Smith, St. John's; H. Statham, B.A., Christ's; B. L. Thurlow, Caius; F. C. Trapnell, King's; A. W. Wakefield, B.A., Trinity; L. G. A. West and R. G. Willis, St. John's; A. B. Wilson, Pembroke; C. J. Wilson, Christ's; and H. W. Wiltshire, Clare.

Part II., Human Anatomy and Physiology.—J. F. Alexander, B.A., Trinity; H. W. Atkinson, B.A., Caius; R. L. Bell, B.A., Peterhouse; H. C. Brown, B.A., Emmanuel; F. Bryan, B.A., King's; W. F. Buckle, B.A., Caius; F. R. Carroll, B.A., Trinity; S. Child, B.A., Pembroke; H. H. Clarke, B.A., and L. Courtauld, B.A., Trinity; H. A. Cutler, B.A., Clare; R. S. Drew, B.A., Pembroke; W. H. Fisher, B.A., Emmanuel; E. H. Harrisson, Clare; J. P. Hedley, B.A., King's; F. L. Henderson, B.A., Caius; T. G. M. Hine, B.A., King's; H. C. Hocken, Clare; H. T. Hodgkin, B.A., King's; W. W. Jeudwine, B.A., H. Selwyn; P. A. Lloyd-Jones, B.A., W. T. D. Mart, B.A., and T. M. Neatby, M.A., St. John's; L. Noon and H. E. Norton, B.A., Trinity; R. G. Nothwanger, B.A., St. John's; C. de C. Pellier, M.A., Clare; R. M. Ranking, B.A., Pembroke; R. Rees, B.A., Downing; J. C. Rix, B.A., Trinity; R. Rolfe, Clare; C. Roper, B.A. Caius; E. S. Scott, B.A., Pembroke; F. E. Shipway, B.A., Christ's; H. F. Skrimshire, B.A., Jesus; J. E. B. Snell, B.A., R. Spearman, B.A., and W. H. E. Stewart, B.A., Caius; E. Weatherhead, St. John's; G. A. Weir, B.A., Trinity; H. C. Williams, B.A., Pembroke; G. R. Wilson, B.A., Trinity; H. M. Wilson, B.A., Trinity Hall; H. P. Wiltshire, B.A., St. John's; C. R. Worthington, Caius; and G. A. Wright, Christ's.

The appointment of a University Lecturer in Physical Anthropology for five years will be made at the beginning of next term. The stipend is £50 a year. Applications are to be made to the Vice-Chancellor by Sept. 30th.—At the Congregation on June 20th (the last of the year) T. A. Mayo, B.A., Clare, and A. G. Wilson, B.A., Caius, were admitted to the degree of Bachelor of Medicine.—During the past academical year 15 candidates have taken the degree of M.D., 50 the degree of M.B., 47 the degree of B.C., and two the degree of M.C.

SOCIETY OF APOTHECARIES OF LONDON.—In June the following candidates passed in the subjects indicated:—

Surgery.—F. W. Chesnaye (Section II.), St. George's Hospital; S. E. Dunkin, Charing-cross Hospital; H. H. J. Edwards (Sections I. and II.), St. Thomas's Hospital; W. M. Hocken, Liverpool; D. V. Lowndes (Section II.), Westminster Hospital; V. S. Partridge (Section II.), Charing-cross Hospital; D. O. Williams, Leeds; and W. P. Williamson, McGill and Westminster Hospital.

Medicine.—S. J. H. Eastwick Field, Royal Free Hospital; H. H. J. Edwards (Section II.), St. Thomas's Hospital; T. H. Fox and J. B. Hall (Section I.), Leeds; G. C. Hobbs (Section II.), St. Bartholomew's Hospital; A. Killick (Sections I. and II.), Cambridge and London Hospital; W. M. McLoughlin, University College Hospital; A. Orme (Section II.), London Hospital; G. E. Seville, Manchester; and W. C. Stanham, London Hospital.

Forensic Medicine.—S. J. H. Eastwick Field, Royal Free Hospital; T. H. Fox, Leeds; P. Golding-Bird, Guy's Hospital; J. B. Hall, Leeds; A. Killick, Cambridge and London Hospital; W. M. McLoughlin, University College Hospital; G. E. Seville, Manchester; and W. C. Stanham, London Hospital.

Midwifery.—J. R. Bentley, Middlesex Hospital; H. S. A. Davies, Michigan; J. C. S. Dunn, St. Bartholomew's Hospital; S. J. H. Eastwick Field, Royal Free Hospital; T. H. Fox, Leeds; L. Lehmann, Strasburg and Leipsic; F. Marriott, Edinburgh; G. G. Membery, Toronto; A. Orme, London Hospital; and G. E. Seville, Manchester.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—F. W. Chesnaye, S. E. Dunkin, H. H. J. Edwards, P. Golding-Bird, W. M. Hocken, G. C. Hobbs, A. Killick, D. V. Lowndes, W. M. McLoughlin, W. P. Williamson, and D. O. Williams.

UNIVERSITY OF GLASGOW.—The following candidates have passed the fourth (final) professional examination:—

For M.B., C.M.—George Henry Beck Harvie, Alexander Page Robertson, and Alexander Waugh.

For M.B., Ch.B.—James Napier Baxter, Auguste Boyes, William Broad, Andrew Brownlie, †‡James Robert Chalmers, David Maclure Cowan, †John Craig, George Morris Crawford, William Crerar, John Cullen, Charles Cheven Cumming, Sarah Davidson, John Lithgow Davie, James Austin Dickie, *†Hugh Campbell Ferguson, James Fulton Findlay, ‡George Gardner, *†‡John Gardner, Hyam Goodman, M.A.; †‡Jessie Downie Granger, James Garden Green, Andrew Kerr, Andrew Love, Ramsay Millar, ‡Hugh Miller, ‡Norman M'Leod Miller, †‡Ebenezer Mitchell, M.A.; †‡James Hogg MacDonald, John M'Gilchrist, Norman Forbes MacLeod, William Johnston Maclure, John M'Millan, Ina Lochhead M'Neill, John Patton, Thomas Stephens Picken, John Reid (Lanark), ‡William Alexander Riddell, ‡Arthur Robin, Catherine Love Smith, David James Smith, William Stewart Stalker, †Alfred George Stewart, Frederic Richardson Stewart, M.A.; Charles Pinkerton Thomson, †William Brown Thomson, Henry Nisbet Turner, †Edythe Marjorie Stewart Walker, *†‡Alexander Laurie Watson, M.A.; *†Alexander Simpson Wells, M.A.; Sara Whiteford, Robert Orr Whyte, M.A.; William Wright, and John Doctor Young.

* Indicates that the candidate obtained distinction in Surgery and Clinical Surgery; † distinction in Practice of Medicine and Clinical Medicine; and ‡ distinction in Midwifery.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following gentlemen having passed the necessary examination have been admitted Fellows of the College:—

A. A. Doyle, L.R.C.P., L.R.C.S. Irel., and J. P. Frengley, M.D., B.Ch., R.U.I.

Barker Anatomical Prizes for 1900:—A prize of £21 is offered for a dissection of the pharynx from behind, with as many as possible of the nerves, &c., to be found in that region. The prize is open to any student whose name is on the anatomical class list of any school in the United Kingdom. The preparations entered must be placed in charge of the curator before March 31st, 1900. The conditions under which the competition is to be carried out will be given by Dr. J. Alfred Scott, F.R.C.S. Irel., Curator of the College Museums, Dublin.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. H. Timmer has been recognised as *privat-docent* of Orthopædic Surgery.—*Bahia:* Dr. J. Matheus dos Santos has been appointed Professor of Hygiene.—*Berlin:* Dr. Max Beck, Assistant in the Institute for Infectious Diseases, has been promoted to the rank of Professor.—*Chicago (College of Physicians and Surgeons):* Dr. L. H. Mettler has been appointed to succeed the late Professor Benson in the Chair of Physiology.—(*Rush Medical College*): Dr. J. C. Webster, of the McGill University, Montreal, has been appointed Professor of Midwifery and Gynæcology in succession to the late Dr. Etheridge.—*Gratz:* Dr. Erwin Payr has been recognised as *privat-docent* of Surgery.—*Kharkoff:* Dr. Bronislaus von Kader of Breslau has been appointed to the chair of Surgery.—*Naples:* Dr. Niccolò Buccelli has been recognised as *privat-docent* of Neurology and Electro-therapeutics, and Dr. Olimpio Cozzolino as *privat-docent* of Pediatrics.—*Prague (German University):* Dr. Max Sänger of Leipsic has been appointed Professor of Midwifery and Gynæcology in succession to Dr. von Rosthorn, and Dr. F. Kleinhaus has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Rome:* Dr. Vespa has been recognised as *privat-docent* of Psychiatry and Dr. G. Puccioni as *privat-docent* of Ophthalmology.—*Rostock:* Dr. Martius, Extraordinary Professor of Medicine, has been promoted to the Ordinary Professorship.—*St. Petersburg (Military Medical Academy):* Dr. M. S. Dobrotvorski has been recognised as *privat-docent* of Neurology.—*Toulouse:* Dr. Audry has been appointed Clinical Professor of Skin Diseases and Syphilis; Dr. Guiraud has been appointed Professor of Hygiene; and Dr. Larnic has been appointed Professor of Natural History.—*Tours:* Dr. Bodin has been appointed Professor of Clinical Medicine in succession to Dr. Thomas.—*Würzburg:* Dr. Friedrich Schenck, *privat-docent* of Physiology, has been promoted to an Extraordinary Professorship.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Franz von Chelius, formerly Extraordinary Professor of Surgery and Ophthalmology in the University of Heidelberg, at the age of 79 years. He was the son of Professor Maximilian Joseph von Chelius who held the chair of Surgery in the same University from 1819 to 1864.—Dr. M. W. af Schultén, Professor of Surgery in the University of Helsingfors.—Dr. William Hale McEnroe, Professor of Materia Medica and Therapeutics in the University of New York.—Dr. Francis Mintot, formerly Professor of Medicine in Harvard University.—Dr. Hermann Immermann, Professor of Medicine in the University of Basle, at the age of 65 years. He studied in several universities, taking his degree in Berlin. He was afterwards assistant in the Tübingen Clinic under Felix von Niemeyer, being appointed to the chair in Basle on the death of Liebermeister in 1871. He wrote a good many of the articles in Ziemssen's great dictionary and in Nothnagel's new Handbook of Special Pathology and Therapeutics.—Dr. E. Correia dos Santos, formerly Professor of Pharmacology in the Medical School of Rio de Janeiro.—Dr. A. Ramos, Director of the Brazilian Bacteriological Laboratory.—Dr. Louis A. A. Carpentier, Professor of Midwifery in Paris, at the age of 63 years.

POISONING BY WHISKY.—An inquest was held at Treherbert, South Wales, on June 22nd, upon a child, aged three years, who had died on June 19th. Evidence showed that the father of the deceased had left a small tea-cup containing whisky on a table and that the child had taken it. The father thought that the child "would sleep it off" and did not send for a medical man until some hours later. A verdict of "Death from alcoholic poisoning" was returned and the coroner censured the parent for not sending for medical assistance earlier.

LITERARY INTELLIGENCE.—Messrs. J. & A. Churchill will shortly publish the following books: "The Pathologist's Handbook, a Manual for the Post-mortem Room," by Dr. T. N. Kelynack, Demonstrator in Morbid Anatomy at Owens College, Manchester; "A Work on Medical Electricity for the Use of Students and Practitioners," by Dr. W. S. Hedley, Physician in Charge of the Electro-therapeutic Department of the London Hospital; "A Text-book of Physics," by Professor Andrew Gray, F.R.S., Professor of Physics in the University College of North Wales (it will be issued in three parts, the first to come out being that on Dynamics and Properties of Matter); "A Handbook on Chemistry and Physics for Students Preparing for the First Examination of the Conjoint Board," under the joint authorship of Messrs. Corbin and Stewart; Dr. Eustace Smith's book, "On the Wasting Diseases of Infants and Children," sixth edition; and "Schott Methods of the Treatment of Chronic Diseases of the Heart," third and enlarged edition, by Dr. Bezly Thorne. The above books will in almost every case be very fully illustrated.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.—The following are the names of the Initiating Committee of this society which will commence work next winter:—Dr. E. Cresswell Baber, Dr. J. B. Ball, Mr. C. A. Ballance, Dr. H. A. Ballance, Dr. Barclay Baron, Dr. Thomas Barr, Dr. F. W. Bennett, Mr. A. H. Benson, Dr. J. W. Bond, Dr. Adolph Bronner, Dr. J. Walton Browne, Mr. W. C. Bull, Mr. Arthur H. Cheatle (provisional honorary secretary), Mr. A. E. Cumberbatch, Sir William Dalby, Mr. George Field, Dr. Dundas Grant, Dr. G. T. Guild, Mr. F. G. Harvey, Dr. Wm. Hill, Dr. W. Jobson Horne, Mr. Victor Horsley, Mr. T. Mark Hovell, Dr. J. M. Hunt, Dr. Percy Jakins, Dr. Mackenzie Johnston, Mr. Hugh E. Jones, Dr. Macnaughton Jones, Dr. A. Brown Kelly, Mr. Richard Lake, Dr. Edward Law, Mr. L. A. Lawrence, Dr. C. J. Lewis, Dr. P. McBride, Professor Macewen, Dr. F. Matheson, Dr. W. Milligan, Mr. Stephen Paget, Dr. H. Pegler, Mr. Bilton Pollard, Dr. Urban Pritchard, Dr. W. Laidlaw Purves, Dr. A. W. Sandford, Dr. J. M. E. Scatliff, Mr. Marmaduke Sheild, Dr. Scanes Spicer, Mr. W. R. H. Stewart, Mr. George Stone, Mr. J. B. Story, Dr. StClair Thomson, Dr. Herbert Tilley, Dr. Logan Turner, Dr. E. Waggett, Mr. H. Secker Walker, Dr. P. Watson Williams, Mr. R. H. Woods, and Mr. P. Macleod Yearsley.

THE WOOD GREEN AND DISTRICT MEDICAL SOCIETY.—At the joint general meeting at Stratford, held on June 15th, of this society and the East Suburban Medical Protection and Medico-Ethical Society, Limited, Mr. Murtaugh Houghton proposed the following definition of a maternity nurse: "*Maternity nurse:* A person not registered under the Medical Acts, 1858 to 1886, who for gain undertakes—under the supervision and direction of a duly registered medical practitioner—to nurse women during childbirth and the lying-in period." After discussion the following resolution was passed: "That this meeting of registered medical practitioners ..... whilst not actively objecting to the registration of maternity nurses as above defined, views with alarm and distrust any attempt to create an inferior order of practitioners by the proposed registration of so-called midwives." The resolution was carried with two dissentients.—Mr. Staniland then proposed with regard to the registration of midwives,[1] "That this meeting thanks Mr. Victor Horsley and Mr. George Brown for their interesting addresses and pledges itself to support the Direct Representatives in uncompromising resistance in and outside the General Medical Council to any Bill that will recognise the attendance on any case of labour of persons not medically registered and regards the Bill of the British Medical Association as a dangerous and unnecessary concession to a mischievous agitation." The resolution was carried unanimously.

[1] See THE LANCET, June 24th, 1899, p. 1732.

OFFICIAL intimation of the sanction of the Local Government Board to the Canterbury Town Council's lunatic asylums scheme has been received. The total cost of the undertaking will be about £70,000.

DR. W. H. COATES, the medical officer of health of the Patrington Rural District Council, was called to the Bar of the Inner Temple on June 14th.

BOSCOMBE HOSPITAL.—The foundation stone of the new building was laid on Wednesday last, June 28th. In 1898 a scheme for purchasing a site whereon to erect a new hospital was approved and since then the land has been purchased and is now vested in the names of the hospital trustees. It is proposed to commence the new building by erecting two pavilions with the necessary corridor and offices.

MEDICAL MAGISTRATES.—Mr. John Roberts Thomson, M.D. Edin., F.R.C.P. Lond., L.R.C.S. Edin., was last week placed on the new commission of the peace as a magistrate for the borough of Bournemouth.—Mr. William F. P. Bassett, M.D. Edin., M.R.C.S. Eng., of Bathurst, New South Wales, J.P., has been appointed *pro tem.* deputy licensing magistrate of the licensing court for the licensing district of Bathurst.

ASSAULT ON A MEDICAL MAN.—Two men were sent for trial at the Thames Police-court on Wednesday, the 21st ult., on the charge of robbing and assaulting Mr. Henry A. Stonham of Albert-square, E., a surgeon. It was alleged against the accused that they made a savage attack upon Mr. Stonham as he was emerging from a court after visiting a patient—in gross violation of the immunity from molestation usually enjoyed by the medical man in the roughest slums of our cities. Mr. Stonham has our best sympathies, for we learn that the shock has been rather severe to him.

HOMES FOR THE EPILEPTIC.—The Duke and Duchess of York opened four new houses at the colony of the National Society for the Employment of Epileptics at Chalfont St. Peter, Bucks, on June 23rd. The Duke of York dwelt on the uses of the society, stating that the idea emanated from a French pastor, and after being tried at La Force, near Bordeaux, on a small scale was taken up in Germany. Mr. J. Passmore Edwards also spoke. The new homes comprise two for children, both the gift of Mr. J. Passmore Edwards; one for men, the gift of Mr. Frederick Greene, and one for cases requiring special care and treatment, the gift of Mrs. Dearmer. These new homes will increase the existing accommodation of the colony by nearly 100 beds.

THE LATE MR. T. H. ADAMS.—Mr. Thomas Henwood Adams, third son of Mr. Richard Adams, M.R.C.S. Eng., L.R.C.P. Edin., the former medical superintendent of the Cornwall County Asylum, died at Gainsborough, Lincolnshire, last week. The deceased, who was born at Bodmin, received his medical education at the London Hospital and qualified M.R.C.S. Eng. in 1892, having taken the L.S.A. in 1891. Mr. Adams had been recently in practice at Gainsborough in partnership with Mr. Passmore and was only 36 years of age at the time of his death. The deceased was buried beside two of his brothers in Bodmin Cemetery on June 22nd, the funeral being very largely attended. Much sympathy is felt at Bodmin for his father and widow.

THE PUBLIC SUPPLY OF STERILISED MILK.—At the Manor Farm Dairy, Limited, Highgate, on June 15th, a select company assembled to witness a demonstration of the process of sterilising milk on a large scale. The advantages claimed for sterilised milk as prepared under the company's process are: 1. All risk of infection by contamination is removed. 2. No chemicals or other preparations whatever are added to the milk, which is delivered to the consumer in a state of purity. 3. The milk is more easily digested than ordinary milk. 4. Contamination by storage is totally avoided. 5. A supply of milk can be kept on hand in the store-room ready for use at any moment. 6. It is not more expensive than the highest quality of raw milk. 7. It is supplied with all the original cream in transparent glass bottles with hermetically closed stoppers and therefore cannot be tampered with or adulterated. 8. It will not turn sour for an indefinite period if unopened even in the hottest weather and after the bottle is opened it will keep sweet for several days in a cool and untainted atmosphere.

VACCINATION FEES.—At a meeting of the Cirencester Board of Guardians held on June 12th it was decided to give the following scale of fees to the public vaccinators whose consent had been obtained: Dr. Cossham (parish of Cirencester), 1*s.* 6*d.* registration fee, 5*s.* primary vaccination, and 2*s.* 6*d.* revaccination; in other parishes, 2*s.* 6*d.*, 3*s.* 6*d.*, and 2*s.* 6*d.* respectively. Dr. C. Mackinnon, 2*s.* 6*d.*, 10*s.* 9*d.*, and 2*s.* 6*d.* Mr. Bloxsome (Fairford), 1*s.* 6*d.*, 5*s.*, and 2*s.* 6*d.*; in other parishes, 2*s.* 6*d.*, 9*s.*, and 2*s.* 6*d.* Dr. Shaw (Rendcombe), 1*s.* 6*d.*, 5*s.*, and 2*s.* 6*d.*; and in other parishes, 2*s.* 6*d.*, 11*s.*, and 2*s.* 6*d.* Mr. Brown (Sapperton), 2*s.* 6*d.*, 10*s.*, and 2*s.* 6*d.*—At a meeting of the Barnstaple Board of Guardians held on June 16th it was decided that the fees for the public vaccinators for Combmartin and Ilfracombe should be 2*s.* for registration fees and 6*s.* for vaccinations.

Parliamentary Intelligence.

HOUSE OF LORDS.

THURSDAY, JUNE 22ND.

Isolation Hospitals (Amendment) Bill.

WHEN the House went into Committee on this Bill the Earl of LICHFIELD explained that as introduced by him it did not meet with the entire approval of the Local Government Board, and he now proposed to introduce certain amendments which it was hoped would strengthen the measure and facilitate future dealings between the Local Government Board and the local authorities. These amendments were introduced and the Bill passed through Committee.

FRIDAY, JUNE 23RD.

Defective and Epileptic Children.

The Duke of DEVONSHIRE moved the second reading of the Elementary Education (Defective and Epileptic Children) Bill. His Grace explained that the measure had been modelled on the recommendations of the departmental committee which had inquired into the question of defective and epileptic children. It was an enabling and not a compulsory Bill and its object was to enable local educational authorities to make special provision for the treatment of these classes of children. It was found that while the defective children, who included the feeble-minded, could not derive much advantage from the ordinary education in an elementary school they were capable of great improvement by means of special classes such as those which had been provided for blind and deaf and dumb children and for these classes—which of course were expensive—it was proposed that the State should give special grants. In the case of epileptic children it was proposed that they should be treated under medical care in residential homes.—The Bill was read a second time after a short debate.

HOUSE OF COMMONS.

THURSDAY, JUNE 22ND.

Sanitary Condition of Gibraltar.

Mr. STEVENSON asked the Secretary of State for the Colonies whether he had now been able to consider the evidence collected in Gibraltar last year from trustworthy witnesses with regard to the urgent necessity for adopting measures for the improvement of the sanitary condition of the city and fortress of Gibraltar; whether Her Majesty's Government, having regard to the importance of providing proper accommodation for the naval and military forces which might from time to time be employed there, would take steps to prevent the grant of leases of Crown lands to private persons or to companies engaged in building speculations; and whether they would consider the desirability of demolishing the buildings which were stated to be a danger to health.—Mr. CHAMBERLAIN: I have considered the report of the Committee appointed last year by the Secretary of State for War to consider the question of improving the sanitary condition of Gibraltar and the evidence taken by them. It is proposed, in dealing with Crown lands in Gibraltar, as leases fall in to have regard to the requirements for the accommodation for naval and military officers. The Sanitary Commissioners for Gibraltar have and exercise the power of ordering the destruction of buildings found to be actually dangerous to health. There are also other buildings which it may be desirable to remove with a view to prevent the overcrowding of the city and fortress and Her Majesty's Government are considering how this may be done.

FRIDAY, JUNE 23RD.

The Sale of Carbolic Acid.

Sir JOHN LENG asked the Home Secretary whether his attention had been called to the large number of painful deaths by poisoning from carbolic acid; whether he was aware that coroners had repeatedly urged that carbolic acid should only be sold as a scheduled poison and that the Pharmaceutical Society had in accordance with Section 2 of the Pharmacy Act of 1868 applied to the Privy Council to add it to the list of poisons controlled by that Act but without effect; whether in Ireland carbolic acid had been scheduled as a poison and could only be sold by qualified persons, and if he could explain why the Privy Council had refused to schedule carbolic acid, and whether it was proposed to deal with the subject in any other way.—Sir MATTHEW WHITE RIDLEY: I am aware that a considerable number of deaths yearly are due to carbolic acid poisoning, and that it has frequently been suggested that the sale of carbolic acid should be placed under restrictions such as apply to poisons named in the schedule to the Pharmacy Act of 1868. Some years ago the Pharmaceutical Society did apply for the insertion of carbolic acid in that schedule, but it was considered that the gain to the public would not be commensurate with the inconvenience arising from the restrictions, and the application has not been recently renewed. I believe that the Irish Government have scheduled carbolic acid; but that was done under an Irish Act and without consulting the Privy Council in this country. I understand that the objections to scheduling this poison in England have now been lessened by the fact that regulations for the keeping, dispensing, and selling of poisons within the meaning of the Act of 1868 have now been prescribed, and that the Privy Council are prepared to consider whether carbolic acid can advantageously be dealt with in some way, but they cannot take any action except upon a resolution of the Pharmaceutical Society.

The Testing of Army Recruits.

General LAURIE asked the Under Secretary of State for War what disposal was made of such recruits specially enlisted as do not on re-measurement reach the full standard, and whether they were retained in the service as effective soldiers, or whether they were discharged as physically unfit for service, and, if the latter, how long they were retained before discharge.—Mr. GEORGE WYNDHAM: Recruits enlisted under standard are reported on by the medical officer once a month for the first three months of their service. If the report is favourable they are retained; if unfavourable they are brought before a medical board. That board decides whether they are to be discharged or retained as likely to become efficient soldiers. The decision of the board is acted on without reference to the standard.

Vaccination of School Teachers.

Sir WHETMAN PEARSON asked the Vice-President of the Committee of Council on Education whether he would explain why, notwithstanding recent legislation on the vaccination question, the Education Department had refused to sanction the apprenticeship of Emma Merry as pupil on probation at Stockwell-street Board School, Colchester, on the ground that she had not been properly vaccinated, she being over the age of 16 years.—Sir JOHN GORST: The girl was refused admission as a pupil teacher on the ground stated. The Committee of Council are advised that the vaccination of teachers is desirable in the interest of the children who attend the elementary schools. They are not aware that recent legislation has affected the matter.

MONDAY, JUNE 26TH.

Vaccination in Scotland.

Sir CHARLES CAMERON asked the Lord Advocate how many persons were sent to prison in Scotland for refusal to have children vaccinated during the first six months of 1898 and 1899 respectively; whether any alteration had been made in the instructions of the Scottish Local Government Board as to vaccination prosecutions; and whether any steps and, if so, what steps had been taken for the gratuitous distribution in Scotland as in England of glycerinated calf lymph.—The LORD ADVOCATE: I am informed by the Prison Commissioners for Scotland that there were 11 such cases in the first six months of 1898 and seven in the same period of 1899. I have ascertained from the Local Government Board that they have made no alteration in their instructions. Arrangements have been made, with the sanction of the Treasury, whereby parochial vaccinators shall obtain gratuitous supplies of sterilised calf lymph as in England.

Medical Provision in the Glasgow Prison.

Mr. PARKER SMITH asked the Lord Advocate what was the average daily population of Duke-street Prison, Glasgow; whether he was aware that there were no hospital wards other than association cells used as such; whether he was aware that the honourable Member for Partick on a recent casual visit to the prison found a sick untried female prisoner being nursed by two convicted prisoners; and whether the association of prisoners, without the observation of an officer, was the only means of attending to sick prisoners within the prison.—The LORD ADVOCATE: The average daily population of Duke-street Prison is 489, of whom nearly three-fourths are females. It contains two hospital wards for females and one for males. The sick untried prisoner whom the honourable Member found had been on previous occasions convicted 13 times. She was suffering from fits and was associated by order of the medical officer with two other prisoners who were carefully selected by the matron, who has had much experience. Prisoners thus associated are regularly visited by the prison officials and receive all requisite care from the medical officer and nurse-warders.—Mr. PARKER SMITH asked the Lord Advocate whether he was aware that at Duke-street Prison on Oct. 14th last a prisoner, Mary Carroll, under treatment for a gangrened foot, was left alone in an ordinary cell; that being taken seriously ill in the night the nurse-warder was summoned and Mary Carroll was removed to an association cell already occupied by a sick prisoner under the charge of two other prisoners; that she was left in charge of these prisoners who about an hour afterwards rang the bell and reported that she had had a bad turn, and that on the arrival of the nurse-warder she was found to be dead; what was the report of the doctor upon the case; what were the qualifications of the nurse-warder to judge as to the condition of the patient; whether any steps had since been taken to ensure that prisoners seized with serious illness should receive attention; and whether he would provide that in so large a prison there should be a proper hospital where all the sick could be placed, and a properly trained nurse in constant attendance.—The LORD ADVOCATE: The case of Mary Carroll is substantially as stated by the honourable Member. The report of the doctor was to the effect that she was suffering from gangrene of the toes of her right foot. Although she regarded it herself as of no consequence he ordered her to be put to bed and to be placed under treatment. On the morning of Oct. 14th she complained of breathlessness; she was removed to the hospital ward and attended to by the sick nurse till she felt better. An hour afterwards she had a sudden attack and died. The symptoms and manner of death point to a clot of blood as the immediate cause. The nurse-warder had acted for more than two and a half years in the hospital wards of an English asylum, she had had 15 months' training in a Scottish asylum, and is a regularly certificated nurse. The medical officer is quite satisfied with her. When this prison was rebuilt the hospital accommodation was arranged in consultation with the medical officer. The chief medical adviser does not consider that a separate hospital building is a necessity at Duke-street Prison, and the Prison Commissioners are not at present prepared to recommend that there should be one.

TUESDAY, JUNE 27TH.

The Dum-Dum Bullet.

Mr. DILLON asked the Secretary of State for India how soon he would be able to lay papers upon the table of the House giving grounds on which the Dum-Dum bullet used in recent Indian campaigns was adopted, particulars of experiments on animals carried out before it was decided to issue the bullet to troops, the surgical reports as to the effect of the bullet on the human body, particulars of experiments now being conducted with the new bullet which was to be substituted for the Dum-Dum, and Professor Brims's experiments with the Tübingen bullet; and whether he would procure specimens of the original Dum-Dum, the Tübingen bullet, and the bullet which it was proposed to substitute for the Dum-Dum in India, and have them placed in the tea room for the inspection of Members.—Lord GEORGE HAMILTON: In reply to the first part of the question the papers which I undertook to give have been some days in print and will shortly be circulated. But they relate only to experiments with the Dum-Dum bullet. An inspection of bullets such as is suggested would be quite useless as no one by looking at a bullet before it is fired can estimate the injury it may inflict when fired.

BOOKS, ETC., RECEIVED.

AUSTIN, S. AND SONS, Hertford.
Two Lectures on the Temples and Ritual of Asklepios at Epidaurus and Athens. Delivered at the Royal Institution of Great Britain, 1898. By Richard Caton, M.D., F.R.C.P. (reprinted from Otia Mersciana). 1899.

BALE, JOHN, SONS, AND DANIELSSON, Great Titchfield-street, London, W.
Selby: A Pathological Morality. By Eppie Frazer. 1899. Price 7s. 6d. net.

CLAY, C. J., AND SONS, London.
The Soluble Ferments and Fermentation. By J. Reynolds Green, Sc.D., F.R.S. 1899. Price 12s.

FISCHER, GUSTAV, Jena.
Klinische Erfahrungen über Diabetes Mellitus. Von Dr. E. Kulz, Prof. Dr. Th. Rumpf, Dr. G. Aldehoff, und Prof. Dr. W. Sandmeyer. 1899.

GRIFFIN, C., AND Co., Exeter-street, Strand, London.
Year-Book of the Scientific and Learned Societies of Great Britain and Ireland. Compiled from official sources. Sixteenth annual issue. 1899. Price 7s. 6d.
The Diseases of Children: a Clinical Handbook. By Geo. Elder, M.D., F.R.C.P. Edin., and J. S. Fowler, M.B., F.R.C.P. Edin. 1899. Price 10s. 6d.
A Medical Handbook. By R. S. Aitchison, M.D., F.R.C.P. Edin. Illustrated. Third edition. 1899. Price 8s. 6d.

KEGAN PAUL, TRENCH, AND Co., Charing-cross-road, London.
Evolution by Atrophy in Biology and Sociology. By J. Demoor, Jean Massart, E. Vandervelde. Translated by Mrs. C. Mitchell. 1899. Price 5s.

KIMPTON, HENRY, High Holborn, London.
A Manual of Organic Materia Medica. By J. M. Maisch, Ph.M., Phar. D. Seventh edition. Revised by Henry C. C. Maisch, Ph.G., Ph.D. Illustrated. 1899. Price 10s. 6d. net.
Gleet and Chronic Diseases of the Urethra and Prostate, with special reference to their treatment by Irrigation. By G. Dalton, M.S.A. Lond. 1899.
Retinoscopy (or Shadow Test). By Jas. Thorington, M.D. Third Edition. Illustrated. 1899. Price 5s. net.
Essay on the Nature and the Consequences of Anomalies of Refraction. By F. C. Donders, M.D.: edited by C. A. Oliver, A.M., M.D. Illustrated. 1899. Price 6s. net.

KNIGHT AND Co., La Belle Sauvage, London.
Every Cyclist's Manual. By A. M. White. 1899. Price 2s.

LEWIS, H. K., Gower-street, London.
Massage and the Original Swedish Movements. Their application to various diseases of the body. By Kurre W. Ostrom. Fourth edition. Illustrated. 1899. Price 5s. 6d. net.
Text-book of Ophthalmology. By Dr. E. Fuchs. Translated from the seventh German edition by A. Duane, M.D. Illustrated. Second American edition. 1899. Price 21s.

LIPSIUS UND TISCHER, Kiel und Leipzig.
Chirurgische Technik. Bände III. und IV. Von Dr. Fr. von Esmarch und Dr. Ernst Knowalzig.

MACMILLAN AND Co., London.
Defective Eyesight: the Principles of its Relief by Glasses. By D. B. St. John Roosa, M.D., LL.D. 1899. Price 4s. 6d. net.

MEDICAL PUBLISHING COMPANY, 22½, Bartholomew-close, London, E.C.
Pyorrhœa Alveolaris and its Relation to General Medicine. By J. Fitzgerald, L.D.S. 1899.

MORRIS AND YEAMAN, Queen-street, Manchester.
The Victoria University, 1899. Dissertation on Aspergillosis submitted for the degree of the M.D. By T. A. Rothwell, M.B., Ch.B. Vict., L.R.C.P., M.R.C.S.

MURRAY, J., Albemarle-street, Piccadilly, London.
The Progressive Science Series. Bacteria. By George Newman, M.D., F.R.S. Edin., D.P.H. Camb. 1899. Price 6s.

OFFICES OF AMATEUR GARDENING, Aldersgate-street, London.
Amateur Gardening for Town and Country. Vol. 15. May, 1898, to April, 1899. Illustrated. 1899.

OFFICES OF THE CHEMIST AND DRUGGIST, Cannon-street, London.
A Manual of Pharmaceutical Testing. By B. S. Proctor, F.I.C. Second edition. 1899. Price 2s. 6d. net.

PENTLAND, YOUNG J., Edinburgh and London.
The Edinburgh Medical Journal. Edited by G. A. Gibson, M.D., F.R.C.P. Edin. New series. Vol. 5. 1899.
Aseptic Surgery. By Charles B. Lockwood, F.R.C.S. Second edition. 1899.

SMITH, ELDER, AND Co., Waterloo-place, London.
Dictionary of National Biography. Edited by Sidney Lee. Vol. 59. Wakeman—Watkins. 1899. Price 15s. net.

SPOTTISWOODE AND Co., Gracechurch-street, London.
Minutes of the General Medical Council and of its various Committees from January 1 to June 9, 1899, with 15 Appendices. Vol. XXXVI. 1899.

WATERLOW AND SONS, London-wall, London.
Guide to our Old Homes across the Water. By Oscar Moll, A.I.E.E. 1899.

Appendix XII. to the Second Edition of the Descriptive Catalogue of the Pathological Specimens contained in the Museum of the Royal College of Surgeons of England. By Samuel G. Shattock. (Taylor and Francis, Red Lion-court, Fleet-street, London), 1898.—Magazines, &c., for July: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, West minster Review, Contemporary Review, Friendly Greetings, Myra's Journal, Pall Mall Magazine, Windsor Magazine, Cornhill Magazine, Blackwood's Magazine, English Illustrated Magazine, Knowledge, Humanitarian, St. Peter's Magazine, Wide World Magazine, New Century Review.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ANGOVE, W. T., M.R.C.S., L.S.A., has been appointed Officer of Health for Tea Tree Gully, South Australia.

BERRILL, A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Woodford Sanitary District of the West Ham Union.

BURDWOOD, J. W., L.F.P.S. Glasg., has been re-appointed Medical Officer of Health for the Bourne Rural Sanitary District.

BYFORD, W. F., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer and Public Vaccinator for the No. 1 Sanitary District of the Ruthin Union.

COLES, CHARLES, M.D., D.P.H. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer of Health to the Leicestershire and Rutland Combined Districts.

COLLINS, H. B., M.R.C.S., D.P.H. Lond., has been re-appointed Medical Officer of Health by the Kingston Town Council.

DONALDSON, J. B., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Officer of Health for the Shire of Hampden, Parishes of Carranballac, South Barriyallock, and Skipton, New Zealand.

DUIGAN, C. B., L.R.C.P., L.R.C.S. Edin., has been appointed Officer of Health for the Borough of Carisbrook, Victoria, Australia.

DURBYSHIRE, D. E., M.B. Vict. Univ., L.R.C.P. Lond., M.R.C.S., has been appointed to act as Resident Medical Officer and Public Vaccinator at York, West Australia.

FORSTER, A. E. B., M.B. Melb., has been appointed Officer of Health for the Shire of Lancefield, Victoria, Australia, vice A. G. Keogh, resigned.

GREGORSON, W. J., M.B., Ch.B. Melb., M.R.C.S., has been appointed Officer of Health for West Torrens, South Australia.

GRIFFITH, A. H., M.D. Aberd., F.R.C.S. Edin., has been appointed Honorary Ophthalmic Surgeon to the Royal Infirmary, Manchester.

HARBISON, J. W., M.B., Ch.B. Melb., has been appointed, *pro tem.*, acting Officer of Health and Public Vaccinator at Numurkah, Victoria, Australia.

KNAGGS, R. L., M.D. Camb., F.R.C.S. Eng., has been appointed Honorary Demonstrator of Surgical Pathology by the Council of the Yorkshire College.

LAWRENCE, G., M.R.C.S., has been appointed Medical Officer to the Chepstow Workhouse, vice E. P. King resigned.

LEAF, CECIL H., M.A., M.B. Cantab., F.R.C.S. Eng., has been appointed Surgeon to the Out-patients at the Gordon Hospital for Diseases of the Rectum, London.

MACVICKER, C. G., B.A., M.B. Irel., has been appointed Medical Officer and Public Vaccinator for the Fourth Sanitary District of the Wells Union, vice F. J. Malden resigned.

MARSH, J. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health, Macclesfield, vice W. R. Etches, resigned.

MAYNE, J. O' N., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Superintendent of the Brisbane Hospital, Queensland.

MEACHEN, G. N., L.R.C.P. Lond., M.R.C.S., has been appointed an Assistant House Surgeon to Guy's Hospital, London.

PITT-TAYLOR, F. S., M.B., Ch.B. Vict., has been appointed Assistant Medical Officer to the Mill-road Infirmary, Liverpool.

PRING, A., L.R.C.P. Lond., has been appointed Medical Officer at Taroom, Queensland.

RAMSAY, J. R., M.B. Lond., has been appointed Health Officer for Lennonville, West Australia.

REYNOLDS, E. S., M.D., F.R.C.P. Lond., has been appointed an Honorary Assistant Physician to the Royal Infirmary, Manchester.

SINCLAIR, A. M., M.B., C.M. Aberd., has been appointed Honorary Medical Officer for the Burnley Victoria Hospital, vice A. A. Watson.

WOOD, W., M.R.C.S., L.S.A., has been re-appointed Medical Officer for the Cranswick Sanitary District of the Driffield Union.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

ANCOATS HOSPITAL, Manchester.—Resident Junior House Surgeon. Salary £50, with board and washing.—Also Resident Senior House Surgeon. Salary £80, with board and washing.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board, lodging, and washing.

BELFAST DISTRICT ASYLUM.—Locum Tenens Assistant Medical Officer for a few months. Salary £3 3s. per week, with residence and attendance.

BERRYWOOD ASYLUM, Northampton.—Assistant Medical Officer for five years, unmarried. Salary £150, increasing to £200, with board, lodging, washing, and attendance.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £50, with board, residence, and laundry. Applications to Hon. Sec., 20, Chapel-street, Liverpool.

BIRKENHEAD BOROUGH HOSPITAL.—Honorary Surgeon.

BIRKENHEAD UNION.—Assistant Medical Officer for the Infirmary, Workhouse, and Schools. Salary £80 per annum, with board, washing, and apartments. No extra fees.—Applications to the clerk to the Guardians, 45, Hamilton-square, Birkenhead.

BOROUGH ASYLUM, Portsmouth.—Junior Assistant Medical Officer. Salary £100, with board, lodging, and washing.

BRADFORD ROYAL INFIRMARY.—Dispensary Surgeon, unmarried. Salary £100 per annum, with board and residence.

CANCER HOSPITAL (FREE), Brompton, S.W.—Two Honorary Assistant Surgeons.

CARDIFF INFIRMARY.—Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing, and apartments.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon, board and residence provided in the Hospital. Also Assistant House Surgeon. Salary at the rate of £50 per annum. Rooms not provided.

CITY ASYLUM, Birmingham.—Clinical Assistant for three months. Board, lodging, and washing provided.

CITY OF LONDON LYING-IN-HOSPITAL, City-road.—District Surgeon.

COUNTY ASYLUM, Gloucester.—Third Assistant Medical Officer, unmarried. Salary £105 per annum, with board (no stimulants), lodgings, and washing.

COUNTY ASYLUM, Prestwich, Manchester.—Junior Assistant Medical Officer, unmarried. Salary commences at £125 per annum, increasing to £250 by increments of £25, with apartments, board, attendance, and washing.

COUNTY ASYLUM, Whittingham, Lancashire.—Locum Tenens for about four or five months. Salary two guineas a week.

DENTAL HOSPITAL OF LONDON AND SCHOOL OF DENTAL SURGERY, Leicester-square.—Demonstrator. Honorarium £50 per annum.

ESSEX AND COLCHESTER HOSPITAL, Colchester.—House Surgeon. Salary £100 per annum, with board, washing, and residence.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Junior Resident Medical Officer and Registrar. Salary £50, with board and washing.

FISHERTON ASYLUM.—Assistant Medical Officer. Salary £120 per annum to commence, with board, lodging, and washing. Apply to Dr. Finch, The Asylum, Salisbury.

GENERAL INFIRMARY AT GLOUCESTER AND THE GLOUCESTERSHIRE EYE INSTITUTION, Gloucester.—Physician.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians. Also Assistant Resident Medical Officer. Salary £50 per annum, with board and residence.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, London.—House Surgeon for six months, unmarried. Salary £20, with board and residence in the hospital. Also House Physician for six months. Unmarried. Salary £20, with board and residence in the hospital. Also House Surgeon to out-patients, for six months. Salary 25 guineas.

KING'S COLLEGE, London.—Assistant Physician in charge of Out-patient Children's Department at King's College Hospital.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £85, with board and residence.

LIVERPOOL DISPENSARIES, 34, Moorfields, Liverpool.—Assistant Surgeon, unmarried. Salary £100, with board and residence.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer for twelve months, unmarried. Salary £150 per annum, with board and residence.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Assistant Resident Medical Officer. Salary at the rate of £50 per annum.

OLDHAM INFIRMARY.—Senior House Surgeon. Salary £85 per annum. Also Junior House Surgeon. Salary £70 per annum, with board, washing, and residence in each case. Appointment for one year.

ROCHDALE INFIRMARY AND DISPENSARY.—House Surgeon, unmarried. Salary £80 per annum, with board and residence.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, London.—House Physician for six months. Salary at the rate of £40 per annum, with furnished apartments, board, and washing.

ROYAL PORTSMOUTH HOSPITAL.—Assistant House Surgeon. Salary £50 per annum, with board, lodging, &c.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Surgeon to the Ear and Throat Department.

SEAMEN'S HOSPITAL SOCIETY, Greenwich, S.E.—Physician to In-patients and a Physician to Out-patients at the Branch Hospital in the Royal Victoria and Albert Docks, E.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House Surgeon for two years. Salary £100 per annum, with board, lodging, and washing. Also Assistant House Surgeon. Salary £50 per annum, with board, lodging, and washing.

ST. BARTHOLOMEW'S HOSPITAL MEDICAL SCHOOL, London, E.C.—Assistant Demonstrator of Chemistry.

ST. SAVIOUR'S UNION, Surrey.—Second Assistant Medical Officer at the Infirmary, East Dulwich-grove, S.E. Salary at the rate of £100 per annum, increasing by £10 yearly to £120, with furnished apartments, board, and washing. Appointment subject to statutory deductions. Applications to the Clerk, John-street West, Blackfriars road, S.E.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL, Albert-embankment, London.—Lecturer on Physiology.

STRATTON UNION.—District Medical Officer, South District. Salary £52 per annum, including travelling expenses. Appointment subject to statutory deductions. Applications to the Clerk to the Guardians, Stratton Union, Cornwall.

SURREY COUNTY ASYLUM, Brookwood, near Woking.—Medical Officer for about four months. Salary at the rate of three guineas per week, with apartments and all found.

TOTTENHAM HOSPITAL.—Junior House Surgeon for six or twelve months. Honorarium at the rate of £20 per annum, with board, residence, and laundry.

UNIVERSITY COLLEGE, London.—Jodrell Professor of Physiology.

WARRINGTON INFIRMARY GENERAL HOSPITAL.—Locum Tenens for a month. Terms, two guineas weekly, with board and third-class railway expenses.

WESTMINSTER HOSPITAL, Broad Sanctuary.—Surgeon and Assistant Surgeon.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—Assistant House Surgeon for six months. Honorarium at the rate of £50 per annum, and board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

DALTON.—On June 26th, at Cranmer House, Cambridge, the wife of J. H. C. Dalton, M.D., of a son.

FLETCHER.—On June 21st, at Harley-street, W., the wife of Herbert Morley Fletcher, M.D., of a daughter.

GREIG.—On June 25th, at Totland, Isle of Wight, the wife of Major F. J. Greig, Royal Army Medical Corps, of a son.

ROBERTS.—On June 23rd, at Badlesmere, Eastbourne, the wife of Astley Roberts, M.R.C.S., L.R.C.P. Lond., of a son.

SPICER.—On June 16th, at Camden-road, N.W., the wife of Frederick Spicer, M.D., of a son.

WALTER.—On June 25th, at Lytham-road, Blackpool, the wife of R. A. Walter, M.R.C.S., L.R.C.P., of a son.

WASON.—On June 25th, at Burgoyne-road, Harringay, N., the wife of Richard Llewhellin Wason, M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

ARNOLD—CHARLTON.—On June 10th, at Holy Trinity Church, Paddington, by the Rev. J. Pilkington, Gilbert James Arnold, F.R.C.S., The Towers, Torquay, youngest son of John Arnold of Hill House, Wickwar, Gloucestershire, to Alice Marion, only daughter of the late Hartley Charlton, of Worsley, Lancashire, and Mrs. Hartley Charlton of 7, Westbourne Mansions, Westbourne-terrace, W.

AUDEN—BICKNELL.—On June 27th, at All Saints', Notting-hill, W., George Augustus Auden, M.A., M.B., B.C. Cantab., of Bootham, York, to Constance Rosalie, daughter of the late Rev. R. H. Bicknell, M.A., Vicar of Wroxham, Norfolk.

BOWER—WHITLEY.—On June 27th, 1899, at the parish church, Stretton, near Warrington, Harry Edward Bower, M.B., of View Field, Stretton, to May, eldest surviving daughter of Charles Thomas Whitley, of Wallspit House, Stretton.

CANTLIE—FARQUHAR.—On June 23rd, at the Union Church, Hong-Kong, by the Rev. S. H. Wainwright, M.D., of Kobe, Japan, Frank Hay Cantlie, M.B., C.M., Swatou, China, youngest son of the late William Cantlie, Keithmore, Dufftown, to Isabella Ann (Annie), third surviving daughter of Robert Farquhar, Esq., 455, Great Western-road, Aberdeen. (By cable.) American papers please copy.

GONIN—WILLETT.—On June 22nd, at St. Mark's Church, Brighton, Edmund Henri Gonin, M.D., of Towcester, Northamptonshire, to Mildred Theyre Willett, younger daughter of George Walter Willett, J.P., D.L., of West House, Brighton.

LARGE—HICKS.—On June 22nd, at St. Paul's Church, Hull, by the Rev. Robert Large, M.A., assisted by the Rev. G. F. Tamplin, M.A., vicar, Robert Emmott Large, of Flintham Lodge, Oaksey, Wilts, to K. Philippa Hicks, late Lady Superintendent of the Nurses' Cooperation, 8, New Cavendish-street, London, and youngest daughter of the Rev. Robert Hicks, late Rector of Kirk Smeaton, Yorks.

SARGENT—SARGENT.—On June 21st, at St. Mary's, Bryanston-square, W., by the Rev. E. Bray, M.A., Rector of Shadwell, assisted by the Rev. H. Russell Wakefield, rector of the parish, Hugh Cann Sargent, M.R.C.S. Eng., L.R.C.P. Lond., of 223, High-street, Shadwell, E., to Emily (Phyllis), widow of the late H. W. Sargent, Esq., of Seymour-place, W.

SARJEANT—KEKWICK.—On June 22th, at St. Mary's, Islington, John Frederick Sarjeant, L.R.C.P., M.R.C.S., eldest son of John W. Sarjeant, of Wellington, to Jane Eleanor, elder daughter of the late James Watson Kekwick, of Carlisle.

DEATH.

HUGHES.—On June 24th, Philip Vernon Hughes, M.R.C.S., L.R.C.P., eldest son of the late Philip Hughes, aged 28.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE RELATIONS OF THE MEDICAL MAN TO HIS ASSISTANT: WHAT IS A PRIVILEGED COMMUNICATION?

An action for libel was recently brought by one medical man against another medical man in the course of which the question was raised as to what communications can be made by the principal and regarded as privileged to his assistant. In the action in question the defendant told his assistant, who was a fully-qualified medical man and therefore able to take sole charge of any case, that he had been called to see a patient on whom the plaintiff had been attending until his services were dispensed with for drunkenness. This was the libel complained of and there is no necessity to give further details, for the case ended, from a professional point of view, happily. The defendant set up a defence that the words complained of, being spoken to his assistant, were privileged—in other words, that the relations between himself and his assistant made it his duty to say them. Mr. Justice Ridley, however, scouted the plea, when the defendant, by withdrawing all imputation against the plaintiff and tendering an ample apology, brought the matter to a termination.

The law was thus not laid down, but a remark from the Bench is worthy of the attention of medical men. Mr. Justice Ridley said in effect that it was clearly the medical man's duty to inform his assistant of the medical nature of the case, but that he had no right to say why the previous medical man had been dismissed. It is easy to see that communications of a medical nature between principal and assistant must be privileged. The assistant of to-day has to be a qualified man capable of taking sole charge of a case and it would be an absurdity to put any limitation upon the exchange of confidences between him and his principal as to the condition of their charge. But for this very reason it is not quite easy to to see why a statement made upon a vital detail in the previous management of the case should not be considered privileged. It must be clearly understood that we are not attempting to review the incidents of the particular case out of which the action arose, for the defendant made an unqualified apology and no attempt whatever to justify his words. We are considering entirely suppositious circumstances when we ask our readers to decide what they would consider to be their duty in such a position as this. A case has suddenly passed from one medical man to another. The second medical man learns that the first one has been dismissed for a serious error in judgment, say, or in taste, or (on the contrary) through the caprice of the patient or the patient's friends. Should he tell his qualified assistant, to whom he may have to delegate the care of the case, why the previous medical man was no longer in attendance?

In our opinion he should, and we think so although Mr. Justice Ridley does not consider that such communications are protected under the plea of privilege. In taking over a case from another medical man surely the treatment that has gone before may be of considerable influence upon future treatment. Any circumstance whatever that may help to gauge the quality and value of the medical treatment already received constitutes important knowledge to the medical man in charge of the case. Medical men have before now suddenly been asked to discontinue their treatment because they would not permit gross interference with their instructions on the part of meddling relatives. A more extreme example of a sudden cessation being put to a practitioner's services through no fault of his own but, on the contrary, through the very serious fault of the patient and his friends has been chronicled in the press. In this instance a medical man was discharged from attendance upon a case because he persisted in considering it to be of a nature making notification under the Infectious Diseases (Notification) Act incumbent upon him. The family of the patient being for business reasons extremely loth to admit the presence of an infectious patient upon their premises disputed the diagnosis and dismissed the medical man, hoping to obtain elsewhere an opinion tallying with their own convenient pathological views. In both these circumstances, just as much as where the medical practitioner has been discharged for some fault, it is most important that whoever succeeds to the care of the case should know all that has gone before. No one can say precisely what fact may or may not be essential to the diagnosis and treatment of a case, and when a principal hands the care of a case over to an assistant it will be his duty to tell him everything that he believes may help to guide him.

THE DUE LIMITATION OF NURSING.

To the Editors of THE LANCET.

SIRS,—At the present time, when so much is being done to suppress unqualified practice by the General Medical Council, and when medical men are considered guilty of unprofessional conduct in employing unqualified assistants, one reads in the *British Medical Journal* with some little surprise of the report of the meeting of the London School Nurses' Society, where one lady states that the admitted aims of the society are that the nurses shall attend to the minor ailments and to the cleanliness of the children. If this attendance on the part of the nurses is not under the direct supervision of a qualified practitioner it is conduct of which the General Medical Council should, I submit, take cognisance. Again, the remarks of Mr. Carter, though he only compares the diagnostic powers of a nurse in comparison with the poor women amongst whom she works, still, I think one would nevertheless infer from his remarks that one of the functions of the nurse in the ordinary course of her duties is diagnosis at an early period in the stage of disease, at a time when the most experienced practitioner finds diagnosis most difficult, and therefore attributing to nurses powers which they do not possess. Lord Reay's remark *re* the child with diphtheria corroborates my belief that the nurses' functions belonging to this society are such as can hardly be distinguished from those of the qualified medical practitioner.

I am, Sirs, yours faithfully,

Hastings, June 24th, 1899. F. W. COLLINGWOOD.

THE LIGHTING AND HEATING OF THE LYING-IN CHAMBER.

To the Editors of THE LANCET.

SIRS,—Will you kindly inform me whether you see any objection to the use of the electric light in the lying-in room or afterwards—the idea being that that method of illumination is injurious to an infant's sight? Do you think a gas stove is an unhealthy means of heating a room under the like circumstances in the interest of the child?

I am, Sirs, yours faithfully,

June 26th, 1899. C.

*** There is no objection to the use of electric light in the lying-in room if the baby's eyes are not unduly exposed to its glare. A gas stove, even if it is a well-constructed stove and the room is properly entilated, is not a method of heating to be recommended for a place where a baby is kept. The air is apt to become unduly dry.—ED. L.

WHAT IS ADVERTISEMENT?

To the Editors of THE LANCET.

SIRS,—Now that the members of the General Medical Council are thinking of some means to remedy the too great amount of advertising among members of the medical profession the following cutting from a weekly popular paper may be interesting:—

HOW DOCTORS ADVERTISE.

The keen-eyed stranger sidled up to the tall man who was hurriedly looking through his letters.

"Beg pardon, sir," he said, "but if I am not mistaken you are one of the physicians of the great author who is lying dangerously ill?"

"I am," remarked the tall man.

"Thank you," said the stranger. "Then I assume that yours is one of the names that appear on the hourly bulletin?"

"It does," said the tall man.

"Thank you again," said the stranger. "And now, what I want to suggest is that you permit me, for a handsome compensation of course, to add these words at the bottom of each bulletin: 'Use Bulger's Blood Bitters! They fight off disease!'"

"Sir!" roared the tall man, trembling with indignation, "those bulletins are not advertisements!"

"Aren't they?" screeched the peppery stranger. "Then take your own name off 'em!"

And he stalked away, leaving the tall man speechless with rage.

Besides bulletins like this we often see in the daily papers notices to the effect that "Doctor —— has removed from 18, —— street, to 24, —— road," or that "Professor —— has left town till the 29th." Of course, the grievance is not about cases like the above. The fault is with the poor and struggling medical men who are rather to be pitied for being forced to resort to such means of becoming known. But what about these advertisements? Is there nothing unprofessional in this method of bringing one's name before the public? Let the leaders of the profession set the example first, then it will be time to set forth the precept.

I am, Sirs, yours faithfully,

June 24th, 1899. FAIRPLAY.

RE THE MEETING (IN OPPOSITION TO THE MIDWIVES BILL) AT WEST HAM HOSPITAL ON JUNE 15TH.

To the Editors of THE LANCET.

SIRS,—Allow me to direct your attention to the fact that in your report of the above the two resolutions passed and Mr. George Brown's speech are "conspicuous by their absence." I consider, Sirs, that such a large and representative meeting of medical men deserves better treatment at your hands than to have its resolutions ignored, nor, Sirs, is our senior Direct Representative such a nonentity that no attempt should have been made even to epitomise his eloquent utterances on the occasion in question. I trust that you will make some atonement in your next issue either by publishing the resolutions and speech in question or else inserting this letter. I shall feel obliged for an early reply, which shall be duly presented to the next meeting of our society.

I am, Sirs, yours faithfully,

M. HOUGHTON,

Hon. Secretary, East Suburban Medical Protection and

June 26th, 1899. Medico-Ethical Society, Limited,

*** The resolutions in question (see p. 63) were crowded out of our necessarily abbreviated report. Will Mr. Houghton be so good as to consider this the early reply which he seeks.—ED. L.

THE REMOVAL OF OUTGROWTHS FROM THE NASAL SEPTUM, &c.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if one or more of your experienced readers would be kind enough to say in your valuable columns what at the present time are considered the indications for removal of outgrowths from the nasal septum and the contra-indications. Also, what are the unpleasant results liable to follow. I refer especially to the question of the comfort or discomfort from the presence of scar tissue on the septum. Where there are present at the same time "spurs" and hypertrophy of the membrane covering the inferior turbinated bone is it better to attack first the septum or the turbinated? Also, are tonsils generally removed nowadays by the guillotine in childhood and adult age or is some other means preferred?

I am, Sirs, your faithfully,

June 8th, 1899. AN EXILE.

THE BEST BOOKS OF REFERENCE FOR THE MEDICAL ADVISER TO A LIFE INSURANCE COMPANY.

To the Editors of THE LANCET.

SIRS,—Will you please tell me what books are the best authorities for the medical adviser of a life insurance office to consult?

I am, Sirs, yours faithfully,

June 21st, 1899. PROGRESS.

*** "The Medical Handbook of Life Assurance," by Dr. J. E. Pollock, is the best known book and is thoroughly practical and reliable. Our correspondent should also read Dr. de Havilland Hall's "Medical Examination for Life Assurance."—ED. L.

A PUZZLING CASE.

To the Editors of THE LANCET.

SIRS,—I shall be obliged if you will bring the following before the notice of your readers who may be kind enough to assist me in the matter of diagnosis and treatment. A girl, aged 18 years, is under my care suffering from advanced phthisis. Within the last week she has had œdema of both feet and ankles and owing to her debilitated condition has been forced to remain in bed. The œdema has disappeared, but she suffers agonising pain in all the toes which is located at the tips and plantar surface. I can find no evidence of any ulceration or clubbing of the digits. The pain is now so severe that morphia has to be given frequently. As regards local treatment, menthol, belladonna, lead and opium lotion, and other remedies have been tried without any effect whatever and morphia is the only drug of any avail. I have had the opportunity of seeing many cases of phthisis and cannot recollect ever meeting with a similar condition or one exhibiting so great a degree of suffering. Any opinion of your readers as to the nature of this trouble will be gratefully received by,

Yours faithfully,

PERPLEXED.

P.S.—There is no foot-drop. Am I right in concluding that this is a case of tuberculous peripheral neuritis?

THE DISUNITED PROFESSION.

To the Editors of THE LANCET.

SIRS,—Now that the holiday season is approaching many medical men will experience great difficulty in securing the services of locum tenents and qualified assistants, while not every practitioner is in a position to pay the remuneration now asked for such services. In these circumstances it would appear that unless they are to forego their vacation altogether some general practitioners will have to adopt the system in vogue in the higher ranks of the profession (and also, I believe, in America and on the Continent) and leave their practices entirely in the hands of their medical neighbours.

The abolition of unqualified assistants, while it has led to the present difficulty of securing temporary aid, has at the same time removed most of the objections to the adoption of such a system. I believe that the use of unqualified men as adjuncts to practice has more than any other one cause conduced to the present disorganised state of the rank-and-file of our profession. As soon as a man got established in a locality his whole object became to keep others out; and to attain this object he made his unqualified assistant, whom he hired at a cheap rate, attend all and sundry for little fees or none rather than let another man get a footing in the district. Instead of cultivating friendly relations with his medical neighbours he kept them at a distance and himself remained aloof from them. Hence much of the jealousy, disunion, and disorganisation which exists in the profession.

But now all this is changed. No longer able to rely on cheap unqualified assistance, medical men will have to depend on one another for aid if they require a few days' relaxation and this will beget more friendly relations. I am, Sirs, yours faithfully,

Canonbury-square, N., June 28th, 1899. HENRY GEORGE DIXON.

P.S.—As an agitation is being raised against the employment of unqualified dispensers by medical men it is a matter worthy of consideration by the latter whether they should not unite in a given locality and open a chemist's shop for themselves with a paid qualified manager to dispense their medicines under their own supervision. In many cases I believe this would be feasible and would prove to be the germ of a provident dispensary under the sole and immediate control of the medical men and without the intervention of any lay committee.

THE SALE OF POISONS BY UNLICENSED PERSONS.

To the Editors of THE LANCET.

SIRS,—I hasten to call the attention of my medical brethren of the three kingdoms to the cruel treatment which I have received in my honest efforts to prevent the sale of poisons by unlicensed persons in this country. On Feb. 13th last a hardware man in Miltown-Malbay gave my son a glass of carbolic acid instead of a glass of turpentine. I reported the matter confidentially to the inspector under the Food and Drugs Act, who disclosed my name to the shopkeeper, who in turn marked an action against me and obtained damages of £50 from a common jury of the city of Dublin, though I and my son and a boy named Malone proved that we got carbolic acid. I ask whether there is any protection to be given to the public at the hands of unlicensed persons distributing poisons wholesale, and if supported by my medical brethren I intend to move for a new trial on the grounds of misdirection by the judge. I am, Sirs, yours faithfully,

M. O'BRIEN, M.D. R.U.I.

Miltown-Malbay, co. Clare, June 25th, 1899.

Mistake.—The error should be pointed out to the publishers, so that, firstly, it may not occur again next year, and secondly, that if the incorrect description is referred to by anyone it will be possible to say that the only practical step towards remedy (the directories being already in circulation) has been taken.

Enquirens.—The degrees are given under different circumstances by most or all universities. Most universities issue a calendar wherein the names of their graduates can be found. There is no compilation from these calendars of the names of persons possessing the degrees mentioned.

Country Practitioner must abide by the bargain which he has made unless the other party to the agreement consents to release him from its condition. This may seem hard and in the particular case unreasonable, but the general principle must be maintained.

P. P.—We agree with our correspondent's views, but the particular example is not one that calls for publication.

Research, Alnwick.—An analysis of the fluid shows it to be an infusion of seaweed or bladder wrack.

P. V. is requested to send his name and address for the information of the editors only.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 29th, 1899.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. in Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
June 23	29·80	N.E.	0·21	82	73	57	57	60	Overcast
,, 24	30·00	WNW	...	112	73	59	60	65	Cloudy
,, 25	30·16	N.W.	...	89	69	54	55	62	Overcast
,, 26	30·17	N.W.	...	128	85	61	65	68	Cloudy
,, 27	30·28	E.	...	116	73	64	62	67	Cloudy
,, 28	30·07	S.E.	...	123	79	55	56	60	Cloudy
,, 29	29·79	W.	0·06	116	75	60	60	65	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (5th).—St. Bartholomew's (1.30 P.M.), University College, (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (6th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St.

George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2. 30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (8th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (5th).—OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Dr. Lewers, Dr. Lediard, and Mr. Gilford (introduced by Mr. Targett). Demonstration:—Prof. A. Thomson: On the Sexual Differences of the Fœtal Pelvis. Papers:—Dr. Lewers: A Case of Persistent Mento-posterior Position of the Face in which the Child was delivered Alive by the Axis-traction Forceps.—Dr. Savory: Notes on a Case of Puerperal Eclampsia.

FRIDAY (7th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8 P.M. Cases and Specimens. 8.30 P.M. Papers:—Major H. Herbert, I.M.S.: Changes in the Conjunctiva produced by Chronic Inflammation (with lantern slide demonstration).—Mr. Rockliffe and Mr. Hainworth: Penetrating Wound of the Orbit with Traumatic Meningitis, Recovery. Annual General Meeting.

SATURDAY (8th).—ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND (Anatomical Schools, New Museums, Cambridge).—2 P.M. Specimens and Exhibits will be shown by Prof. J. Musgrove, Prof. T. Wardrop Griffith, Prof. S. Martin, Prof. A. C. Haddon, Prof. A. Birmingham, Dr. R. J. Berry, Mr. W. L. H. Duckworth. Papers and Lantern Demonstrations: Prof. A. M. Paterson: On Perforations of the Parietal Bones (with exhibition of specimens).—Dr. H. Gadow: On Intercalation.—Mr. C. B. Lockwood: The Lymphatic System of the Appendix Vermiformis.—Dr. C. J. Patten: Exhibition of Slides showing the Form and Position of the Abdominal and Thoracic Viscera in the Lemur.—Prof. J. Symington: A Note on the Thymus of the Koala.—Dr. W. H. Gaskell: The Meaning of Giant Fibres.—Prof. Macalister: Cephalic Index: Curves of 1000 Egyptian Skulls.—Dr. Barclay Smith: Scaphocephaly.—Mr. N. B. Harman: The Palpebral and Oculo-motor Apparatus of Fishes.—Prof. C. Addison: Tables and Illustrations of a Research on the Topographical Anatomy of the Abdominal Viscera.—Mr. H. Higgins: The Movements of the Knee-joint.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (3rd).—WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Turner: Demonstration of Nervous Diseases.

TUESDAY (4th).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. J. Taylor: Electrical Testing.

WEDNESDAY (5th).—MEDICAL GRADUATES' COLLEGE (22, Chenies-street).—6 P.M. Dr. H. Tilley: Demonstration of Selected Cases (Throat and Nose Diseases).

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—4.30 P.M. Dr. Eddowes: Acne. (Post-graduate Course.)

THURSDAY (6th).—THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Garrod: Demonstration of Selected Cases.

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Waterhouse: Demonstration of Surgical Cases. (Post-Graduate Class.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. H. L. Williams: Lesions of the Teeth and their Treatment.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1899, which was completed with the issue of June 24th, and the Title-page to the Volume, are given in this number of THE LANCET.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1899 will be ready shortly. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

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Subscriptions (which may commence at any time) are payable in advance.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

During the week marked copies of the following newspapers have been received: *Manchester Courier, Birmingham Argus, Yorkshire Herald, Walsall Free Press, Public Health Engineer, Science Siftings, Glasgow Herald, Manchester Guardian, Dundee Advertiser, Halifax Guardian, Sheffield Daily Telegraph, Western Mail, Norfolk Daily Standard, Times of India, Pioneer Mail, Eastern Morning News, York Daily Herald, Liverpool Daily Post, Scotsman, Leicester Daily Post, Cornish Post, Citizen, Architect, Builder, Bristol Mercury, Brighton Gazette, Pearson's Weekly, Leeds Mercury, Blackpool Gazette, City Press, Yorkshire Post, East Anglian Daily Times, Hertfordshire Mercury, Mining Journal, Reading Mercury, Dundee Courier, Dorset Record, Surrey Advertiser, Local Government Chronicle, Daily Messenger (Paris), Lancashire Post, Hearth and Home, Barnet Press, Local Government Journal, Weekly Free Press and Aberdeen Herald, Australasian Medical Gazette, Sunderland Daily Echo, Kensington News, Sanitary Record, Kettering Guardian, Rugby Times, Yorkshire Gazette, Clarion, Bridgend Chronicle, Daily News, British Weekly, Oban Times, Bath Argus, Gloucester Chronicle, Evesham Standard, Liverpool Journal of Commerce, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Dr. C. T. Andrew, Aberdeen; Anderson's College Medical School, Glasgow, Acting Secretary of; Anatomical Society of Great Britain and Ireland; A. G.; Dr. S. M. Alcántara, La Guaira, South America; Dr. J. Althaus, Lond.; Ancoats Hospital, Manchester, Secretary of.

B.—Dr. W. C. Bosanquet, Lond.; Mr. C. S. Bowker, Newport; Mr. C. Birchall, Liverpool; Borough Asylum, Portsmouth, Medical Superintendent of; Dr. J. M. Bennett, Liverpool; Mr. H. A. Ballance, Norwich; Messrs. Burroughs, Wellcome and Co., Lond.; Mr. A. J. Brodie, Wisbech; Mr. H. G. Barnett, Croydon; Bedford County Hospital, Secretary of; Mr. F. E. Bennett, Lond.; *Birmingham Daily Post*; Bradford Royal Infirmary, Secretary of; Messrs. C. Barker and Sons, Lond.; Birkenhead Borough Hospital, Secretary of; Messrs. Blampey Bros., Lond.

C.—Dr. M. O. Coleman, Surbiton; Cortland Wagon Co., Lond.; Cardiff Infirmary, Secretary of; County Asylum, Prestwich, Secretary of; Cambrian Steam Navigation Co., Aberystwith; Cambridge Graduates' Medical Club, Hon. Secretary of; Dr. J. A. Claiborne, New York; Mr. R. Treacher Collins, Lond.; Mr. A. H. Cheatle, Lond.; Messrs. J. and A. Churchill, Lond.; Dr. R. J. Coulter, Clifton; Mr. R. Cuffe, Woodhall Spa; Mr. E. A. Clarke, Dukinfield.

D.—Mr. W. G. Dickinson, Lond.; Dr. R. B. Dyer, Alloa; D. F.; Mr. T. Dixon, Lond.; Mrs. Dashwood, Somerby; Dr. H. B. Daniell, Herne Bay; Messrs. Dale, Reynolds, and Co., Lond.

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